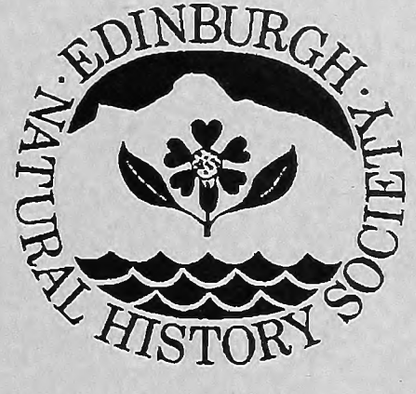

JOURNAL

2004

March 2005

EDINBURGH NATURAL HISTORY SOCIETY

COUNCIL
at January 2005

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PRESIDENT	Natalie Taylor	Retires 2007
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The Edinburgh Natural History Society was originally founded in 1869 and incorporates the Edinburgh Field Naturalists and Microscopical Society, instituted in 1881. The Society was instituted for the study of natural history in all its branches, and for the encouragement of public interest and concern in these matters..

An indoor talk is held on one Wednesday every month from September to April, in the Guide Hall, 33 Melville Street at 7.30pm. Posters of date, time and topic are in all libraries. All are welcome. Outdoor excursions are held throughout the year. A copy of the programme for Summer 2005, and details of membership of the Society can be obtained from the Secretary.

CONTENTS

PRESIDENT'S COMMENTS

Glancing through a draft of this year's journal, I am once more struck by the breadth of the NATS, both in terms of participation and of activities. Again the Excursion Committee has provided a programme of varied excursions to cater to the hugely varied interests of our Society. Our great thanks to them. Similarly our thanks to Sandra and Lyn for another super journal, that would, of course, not be possible without the great contributions of our members, which allow us to produce a journal that represents the range of interests and levels of knowledge that exist within the NATS.

Thanks must also go to Robin Marks as he retires as our librarian, for the time and effort that he has so kindly put into his role over the past few years.

As some of you may be aware, the NATS have recently taken a leap into the 21st century with the long awaited appearance of a website. Thanks to Roger Holme for his assistance with this. Our new presence on the web can be seen at **www.edinburghnaturalhistorysociety.org.uk,** where visitors to the site can also contact the Society via email.

A recurring theme in this year's journal seems to be phenology, with more and more references to species or behaviours occurring early or at unusual times of the year. With this in mind we thought it might be interesting to set a small task for the NATS for 2005. Concentrating on four species we would like to know when people hear Dippers singing (See article on page 8). When does the first frog spawn appear in your local pond? Have you seen any Comma butterflies in the Lothians, if so where and when (Holyrood Park saw its first ever Comma record last summer)? And finally, sightings to chart the progress of the Nuthatch through the Lothians. These records will be collated for next year's journal and can feed into national recording programmes such as that of the National Phenology Network (**www.phenology.org.uk** for details) and the BBC's Springwatch. Charting the changes taking place over the years in first appearances etc. continues to assist with the investigations into climate change and is a simple and effective way for everybody's everyday sightings to contribute to a much bigger picture.

As always, we are looking for ways to improve the Society and move it forward; any members with suggestions for the future development of the Society are asked to contact one of the council members, or email **enquiries@edinburghnaturalhistorysociety.org.uk**

I hope that you enjoy this year's journal and the programme of activities that the Society will be undertaking in 2005. Thanks again to all those people who generously contribute their time and energies to making the Edinburgh Natural History Society the successful organisation that we are today.

Natalie Taylor

OBITUARIES

Ian McDonald joined the NATS in 1962 and both he and his wife became Life Members. Unfortunately in recent years he was unable to join us on excursions, though he continued to take an interest in the Society.

Charles Pountain was a prominent member for many years, serving on both the Excursion Committee and the Council in the 1970s. He was well-known especially to the bird-watchers, with his popular Musselburgh outing an annual event on our programme for a period of 25 years.

Edith (Nan) Thomson was a very independent lady and a great traveller. She joined the Society some twenty years ago and with her interest in natural history, principally in botany, she was an entertaining companion on our field trips.

ISOBEL WYLIE HUTCHISON 1889 - 1982

Connie Stewart

Isobel Wylie Hutchison was born at Carlowrie on the banks of the River Almond at Kirkliston. She was educated in Edinburgh, and at the age of 28 she went to Studeley Horticultural College (for women) and later to study theology at King's College London. Her father, Sir Robert Hutchison was a consultant and a keen amateur botanist. The surplus of plants he brought back home from his travels was planted in Pepper Wood. Later Isobel gave the Wood to the SWT.

In 1924 Isobel walked from Barra Head to the Butt of Lewis, on her own, a distance of 150 miles. As she looked across the sea from the Butt, Iceland beckoned. When she returned home she wrote an article about her journey for the *National Geographic* magazine. This was the first of many articles for them, and it was published in June 1925; she received £51 for the article.

Her next walk, again on her own, in her tweed suit and felt hat, was from Reykjavik to Akureyri, where she found unexpected plants and birds. Lofoten and Greenland caught her interest, and onward to the Arctic regions of the McKenzie River, Alaska and the Aleutian Islands. Greenland was closed to travellers then, but she must have been very determined to go there, because she asked for and was granted authorisation from Kew to collect plants for the Royal Horticultural Society. In this way, she received permission from the Danish Government to go to Greenland. She also collected artefacts for Cambridge University, and had the endorsement of the British Museum. She had no funding, just their blessing!

She befriended the Inuits, and lived with them in extremely harsh conditions, collecting plants and artefacts. She travelled with the help of guides, using what transport was available, such as trading schooners, coastguard vessels, sleds and walking in snow shoes. This extreme way of life, for a woman especially, in the 1930s was very rare indeed.

Between her journeys, she returned to Carlowrie and put on her gloves, observing the bonds of conventional society! She made numerous radio broadcasts, and wrote several books and many articles on her travels. She was editor of the Royal Scottish Geographical Society's magazine for 10 years, and served on the Council of our Society in the 1930s and became a Honorary member (see *The Field Club Flora of the Lothians*).

In 1932 Isobel gained a Diploma of Fellowship (FRSGS) from the Royal Scottish Geographical Society for her valuable work in Iceland and Greenland. When she was awarded a doctorate by St. Andrews University in 1949, the citation was:

EP

A scientist by training, a poet at heart, she has braved the lonely icy wastes of Greenland and Alaska, the mist and fog of the Aleutian Islands, and the untrodden spaces of Canada not only, we believe, to collect plants, but also, we surmise, to satisfy the restless surging of that indomitable spirit which defies hazard, danger and discomfort, and is the source of all great human achievement. Journeyings worthy of romantic saga, contributions to the rich collections of rare plants gracing our botanical gardens, books swelling the exciting literature on Arctic travel, these are signal achievements. They are enriched by a mastery of six strange tongues, and novels and poems written in her own.

She died in 1982, aged 92. Near the end of Isobel's life, Elizabeth and I went to Carlowrie to deliver her Journal and to investigate a Badger sett in the grounds!! She wrote twelve articles for the *National Geographic*, several for *The Times, The Scotsman* and many other journals; she wrote poetry, made films (now held in *The Scottish Screen Archive*) and she painted, having had paintings accepted by the Royal Scottish Academy. Her biography *Flowers in the Snow* by Gwyneth Hoyle is available from the Edinburgh Public Library. A few years ago (1987) the National Library of Scotland held an exhibition of her diaries, books, films and botanical specimens.

Her own books include *On Greenland's Closed Shore*, *North to the Rime-Ringed Sun* and *Arctic Nights' Entertainments* and can be ordered from the Central Library. They make very interesting reading and give a real flavour of the kind of person she was and of the experiences she had. Two quotes from *On Greenland's Closed Shore* will give a taster:

On arriving in Greenland:
It is probably the first time a Scottish woman has set foot in Angmagsalik ..... With becoming solemnity I plant a stout Highland brogue upon the Green Isle.

And later:
A pound a day to hire seven servants and a house-boat, for a journey up one of the loveliest fjords in the world - a fjord into which no modern Briton has yet penetrated! A fairy journey in search of the Birchen trees of Greenland; ..... Yet there are persons who spend a pound a day (or more) to dine on oysters and ice-cream with a distant view of trams.

EDINBURGH'S RAREST TREE?

Max Coleman

If we restrict ourselves to locally native trees, a strong candidate for Edinburgh's rarest tree is the Rock Whitebeam *Sorbus rupicola*. The rarity of this tree means that many people will not have heard of the Rock Whitebeam let alone seen one. The Edinburgh population consists of a small, but unknown, number of trees growing on crags within Holyrood Park. The Rock Whitebeam is in fact rare across the UK as a whole, being classed as nationally scarce (occurring in 16 to 100 10-km squares). The reasons for the scarcity of this tree are not entirely clear, but must in part be due to the restriction to rocky slopes and cliffs.

As a member of the genus *Sorbus* (Whitebeams and Rowans) there are a number of commonly encountered trees that are rather similar to Rock Whitebeam. Common Whitebeam *Sorbus aria* is closest in appearance. Like Rock Whitebeam this species has undivided leaves that are more or less glossy above and downy white beneath. This species also shares the cream coloured flower heads in spring and the clusters of red/orange berries in autumn. The most useful distinguishing feature of Rock Whitebeam is the shape of the leaf. The Rock Whitebeam has an **obovate** leaf in contrast to the Common Whitebeams **elliptic** leaf. In Rock Whitebeam the lower portion of the leaf has more or less straight margins, rather than the typically rounded shape of Common Whitebeam. In addition the leaf margin in the lower part of the leaf is toothless in Rock Whitebeam and toothed in Common Whitebeam. The berries are also distinctive in Rock Whitebeam as they are broader than long giving them a squat appearance.

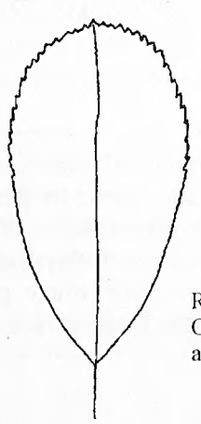
Rock Whitebeam was first recorded in Holyrood Park when in 1813 Robert Kaye Greville collected a specimen, which survives in the herbarium of the Royal Botanic Garden. Subsequent herbarium sheets at the RBGE provide some idea of the historical distribution of this tree in Edinburgh. A total of seven specimens was collected in the period 1813 to 1947. Most of these are from Holyrood Park, and locations mentioned are the rocks above Samson's Ribs and the slope above Duddingston Loch. Of interest are three specimens collected by Alex Craig-Christie, two from Stenhouse and one from Liberton. These are presumably now extinct and it is possible that the Stenhouse collection may not even relate to Edinburgh.

In more recent times interest has focussed on Edinburgh's Rock Whitebeam population in terms of its conservation. The first Edinburgh Biodiversity Action Plan (EBAP), published in 2000, included a species action plan for the tree. This was in response to a perception that the population was very small, and vulnerable to chance events such as fires and rock falls. Under the action plan, the Historic Scotland Park Ranger Service collected seed by abseiling to the 'mother tree' growing on the crag above Dunsapie Loch. This seed was passed to the Royal Botanic Garden for germination. As a result of this a small number of trees were grown, and some were planted back in the Park. Unfortunately the planted area suffered from fire recently, and the survival of the new Rock Whitebeam is at present unclear.

Under the revised EBAP (2004 to 2009) efforts to propagate Rock Whitebeam will continue. The City of Edinburgh Council is also now actively involved in trying to germinate seeds at the small tree nursery established at the Inch Nursery, in collaboration with Enable Scotland. It appears that Rock Whitebeam fruited very well in 2004, something that was also noticed in a number of other tree species.

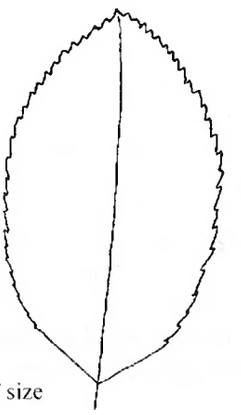
For the future the action plan identifies the need to survey the population accurately. This is complicated by the inaccessibility of the trees and the presence of exotic Whitebeams that have seeded in from garden trees. The most common of these seems to be Swedish Whitebeam *Sorbus intermedia*, which has lobed leaves. Fortunately there is no danger of hybridisation with these exotic species as the Rock Whitebeam produces seed via an asexual process called agamospermy. What this means is that all the Rock Whitebeams in the Park are genetically identical to each other.

Any trees which are planted back into the Park should be located on crags, well away from rank grass and gorse thickets that will pose a fire hazard. Observations last autumn indicate that mature trees are scattered and number at least five, so its future seems reasonably secure. The establishment of some younger trees in suitable spots will further secure the future of a tree that has been known from Holyrood Park for nearly 200 years.



ROCK WHITEBEAM
Obovate leaf with widest point near the tip, and lower half with toothless margin

COMMON WHITEBEAM
Elliptic leaf: oval with the widest point in the middle.



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LEARNING THE HISTORY OF OUR PLANTS - THE BERWICK EXPERIENCE

Michael Braithwaite

In 2004 I led an excursion of the Society around the outside of Berwick-upon-Tweed's walls to share a little of what I had learned in my 2003 project to revisit the site of every plant recorded so meticulously by John Vaughan Thompson in the vicinity of his town in the 1790s. This article aims to draw out a few aspects of that experience.

Exceptionally for such a town, most of the sites around Berwick where Thompson recorded his plants are still undeveloped, and many of his plants survive. This reflects in part, that the period of intensive development of Berwick fell earlier in the eighteenth century; and in part that the presence of the walls has led much of the more recent development to take place south of the Tweed, outwith the study area.

CHANGE IN WATER QUALITY?

Although the fields by the old castle still have herb rich grassland and flushed areas, it is perhaps not too surprising that the Grass of Parnassus *Parnassia palustris* recorded here around 1630 by William Broad and still known to George Johnston in the 1820s, was lost to drainage in 1843. Even so, it takes quite a feat of the imagination to realise that the flushes which today, as then, support the rushes *Juncus effusus* and *J. inflexus*, once supported not only the *Parnassia* but Flat Sedge *Blysmus compressus*, Lesser Water Parsnip *Berula erecta*, Bogbean *Menyanthes trifoliata* and Marsh Lousewort *Pedicularis palustris*. The main force of change must surely have been a change in water quality, the eutrophication we hear so much about, though drainage and the coming of the railway have also played a part.

GAINS AS WELL AS LOSSES ; NATIVES or ALIENS?

Losses to our flora are, however, an all-too-familiar story and we perhaps often fail to take enough trouble to think about the gains, other than to clock up a 'first record' for yet another alien. The Berwick experience emphasises not only how continual a process the arrival of new species to an area has been and continues to be, but also how a number of familiar species that we are accustomed to think of as natives may not be so, at least in our own particular neck-of-the-woods; and of course some natives may have colonised new habitats. I illustrate this with some examples:

Thompson and Johnston had to travel miles to find the Ferns *Phyllitis scolopendrium, Asplenium trichomanes* and *A. ruta-muraria*. Today all three are frequent on the town walls and other old stonework, and it is difficult to believe it could have been otherwise. Most likely a reduction in smoke pollution following the change from an almost universal use of coal as fuel, has allowed them to colonise. Even in Berwick, with its sea air, the coal smoke would have led to a significant build up of sulphurous deposits on the stonework of the town.

NO COMFREYS AT ALL in 1790

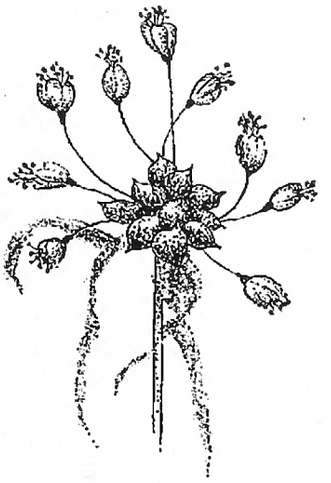
Thompson did not find any Comfreys at all. In Johnston's time they were infrequent and at a distance from Berwick, with *Symphytum tuberosum* localised, and *S. officinale* only represented by a few purple-flowered plants that may well represent early records for *S. x uplandicum*. Today *S. x uplandicum* is common and *S. tuberosum* widespread.

Comfreys were once very important as medicinal plants, and if they were not native in Scotland, or parts of it, one can be sure that they would have been introduced at an early date. The restricted distribution of *S. officinale* in Scotland, where many of the records are in a few populated areas, suggests to me an early introduction, later locally naturalised. If so, what is the history of *S. tuberosum*, with its curious British distribution along the east of Scotland roughly centred at Aberdeen? Could it be another medicinal introduction as a substitute for *S. officinale*, notwithstanding its wide distribution today? The evidence suggests that it is the expansion of the range of *S. tuberosum* over the last two centuries in Berwickshire which, extrapolated backwards, might give a date for introduction in Scotland not so much earlier than the first British record in 1777.

MORE ALIENS?

In Scotland we think of Wild Onion or Crow Garlick, *Allium vineale*, as a scarce plant, but in parts of eastern England it is quite a bad weed of arable ground. At Berwick Thompson found it, as today, on the ramparts and on the parts of the coast where people would dump their rubbish, though he does not make that connection.

SAND LEEK
Allium scorodoprasum



KEELED GARLIC
Allium carinatum

CROW GARLIC
Allium vineale

We saw all three of these Alliums along the Tweed that day.

The last thirty years have seen this species gradually increasing beside the Tweed on dry banks, and it could be reasonable to think of these colonies as starting with a few throw-outs, after bulbils had arrived inadvertently with garden plants and spread all too well. However *A. vineale* also occurs on rocks with a varied native flora, so it is most probably a native that has colonised new habitats.

Tansy *Tanacetum vulgare* and Black Horehound *Ballota nigra* were formerly used as constituents of herbal teas. Whereas the Horehound remains largely restricted to the ground beside old buildings, as at Berwick, Tansy has colonised the banks of the Tweed and is familiar in many places, seemingly a native. Away from the river, Tansy is usually found just along the road from an old cottage. Taking this evidence together both can be considered alien to the district.

Hedge Bindweed *Calystegia sepium* is usually considered a native, while its cousins, Great Bindweed *C. silvatica* and Hairy Bindweed *C. pulchra*, are considered aliens. Why then did Thompson not spot such a plant in Berwick, where it is common today, while he included an illustration of Field Bindweed *Convolvulus arvensis*, in the posy on his frontispiece; and why did Johnston only find it in hedges near Paxton when today it is frequent throughout the county? Surely *Calystegia sepium* is shown to be an introduction from around 1800, probably brought in with hedging stock for the policies of the period, while *Convolvulus arvensis* is itself probably an introduction of an earlier period, as it remains known in just a few of the Borders towns and villages.

AND SOME WHICH COULD NOT HAVE BEEN MISSED .....

Reed Sweet Grass *Glyceria maxima*, is native in much of England, but was unknown to Thompson and Johnston, while today you can hardly miss it at the junction of Tweed and Whiteadder, one of their favourite walks. It was not recorded in Berwickshire until 1938 and the distribution of records suggests it may have been first introduced to an ornamental pond at Newton Don near Kelso, where it abounds. Even Yellow Loosestrife *Lysimachia vulgaris*, native as near as the North Tyne in Northumberland where John Wallis knew it in 1769, was unknown on the Tweed until 1924 but is now widespread downstream from Abbotsford, near Galashiels. It could not have been missed.

Finally what about Grass-leaved Orache *Atriplex littoralis*, well-known as a presumed native on the Northumberland coast and in the Lothians, but not apparently in the Tweed estuary until sometime within the last fifteen years? Did this arrive at Berwick by sea or by road? Remember that it is in just this period that *Atriplex spp.* have been spreading along salted road verges and, yes, *A. littoralis* is indeed plentiful enough on the Berwick by-pass where it crosses the Tweed, so it could easily have spread down the estuary from there. But if it arrived in this way and was able to colonise the river banks as abundantly as it has in a short period, how was it that it never colonised by sea from colonies so near at hand?

ANY COMMENTS

These few examples of the Berwick experience may, I hope, excite comment and perhaps point the way to similar studies in the Lothians, as differences will be found between the views of this article and those on the same species in the recent *Plant Life of Edinburgh and the Lothians*.

If you have any comments, questions or observations for Michael, we will be delighted to pass them on. Eds.

SAUNDERS STREET SONGSTER

Geoffrey Harper

Saunders Street is one of Stockbridge's less prepossessing thoroughfares. In fact, being a cul-de-sac for vehicles, it isn't even properly thorough. Its one merit is that it runs alongside the Water of Leith. I traverse it twice each Saturday afternoon on my weekly walk to and from the Gallery of Modern Art. A favourite pastime is to try spotting a Heron, Dipper and Grey Wagtail all in one afternoon. It happens occasionally - not bad for a busy city.

Imagine my surprise when, at 15.45 on 23rd October 2004, I was stopped dead in my tracks, half way along Saunders Street, by a glorious song coming apparently from beneath my feet. Being deaf in one ear, I needed several seconds of peering cautiously over the railings, up and down the river, to spot the songster directly below me, on a branch beside the water.

It was a Dipper *Cinclus cinclus*, singing its little heart out. The steady series of short phrases made me immediately think - garden warbler? - from which some of you will promptly conclude that my knowledge of bird song is somewhat limited. The songster was so absorbed in making music that it quite forgot to dip, until eventually it stretched one wing, wound up its song, and hopped away. I immediately resolved to consult the literature on dipper vocalisations, and especially when they sing (why October?).

Truth to tell, it was only two days ago, when prompted by your editors to write this note for the Journal, that I betook myself to the Public Library to consult *Birds of the Western Palearctic* and the two older and venerable works by Bannerman and Witherby *et al*.. Bannerman quite rightly begins by pointing out that 'To add to its many charms the Dipper has a very pleasing voice'. He then quotes Witherby, who describes the song as 'a sweet, rippling warble, somewhat Wren-like in general pattern'. Bannerman continues by saying that the Dipper 'has other notes as well of a less pleasing tone, which it utters in flight or at moments of display [when] the male has been observed [...] to take a long and high flight [...] accompanied by sharp, metallic calls - *clink, clink*, differing from the normal *zit*'. So now we have no excuse for not remembering the bird's Latin name.

BWP adds that the song is sung by male and female alike, and at any time of the year. Noting that the song is 'difficult to render', *BWP* nevertheless quotes Creutz (1966) as offering the following example - 'zi zi kep kep toep tja tja zerb srit srit tsarrrr ziii titja'. Since Herr Creutz was presumably writing in German, the 'z' should be pronounced 'ts', the 'j' as a 'y', and the 'oe' [should be 'o' with an umlaut] like 'i' in 'bird'. I reckon it gives a pretty good idea of that charming and so unexpected recital in Saunders Street.

'I particularly like the 'titya' at the end. It must be dipperese for 'See ya!'. "

30th October 2002 was the first day on which I was aware of a Dipper singing its heart out. That was on the River Cocker in Cumbria, and on the following morning, two more were going full throttle on the Derwent. But as I am not a birdwatcher .....LB

LUCKY CHRISTMAS SHOPPER

Joanie Fairlie

Just before going in to town this morning (Saturday 11 December) to Christmas shop (ouch) I was rewarded with this winter's first male Blackcap feeding on ground-up peanuts I put out in my back garden (Relugas Road). Normally I don't see him until mid-January, then a female arrives early February. They never feed together in the garden and both leave, the male first followed by the female a week or so later, in March.

Returning from town (unscathed) I heard singing from a Fir tree, half a dozen Redwing (Findhorn Place). I have only ever heard them singing in Iceland. Another reward. Christmas shopping can't be all bad!

And then the icing on the cake - whilst putting out some bird food I heard a male Bullfinch calling, looked up and there it was sitting in a Silver Birch tree alongside three Goldfinches. How high does that take the squawk factor?!

KINDROGAN MOTH COURSE 2004

Jeff Waddell

CLOUDED BUFF

I was fortunate enough this year to be funded by the Edinburgh Natural History Society to attend David Brown's Moth and Butterfly course at the Field Studies Council Centre, Kindrogan.

The course began on Tuesday the 13th of July, when we arrived at Kindrogan in the evening. After a brief introduction by the tutor, who described the rare species we might see in the area, we set up about 8 mercury vapour Moth traps in the grounds. The weather was mild and overcast that night and we were anticipating a large catch of Moths the following morning. We weren't disappointed, recording about 70 species of macros (larger Moths) as we sorted through the catch. Species of note included **Oblique Carpet**, **Clouded Buff** and **Dark Tussock**. The **Oblique Carpet** is an uncommon geometer which is associated with marshland and often feeds as a larva on Common Marsh Bedstraw. The **Clouded Buff** is one of the most colourful insects in the British fauna, with its fluorescent yellow and orange colouration. All three of these species are classed as nationally local i.e. recorded from 100-300 10-km squares since 1960.

On Wednesday we visited an area of unimproved calcareous grassland at Straloch (NO 034636) and saw the **Northern Brown Argus Butterfly**. The grassland here was carpeted with Common Rockrose, the larval food plant of the Butterfly. There were also other interesting plants growing in the herb rich sward, including Fragrant Orchid, Field Gentian, Mountain Everlasting and Alpine Bistort.

GREAT BROCADE MOTH

We then visited an area of Purple Moor Grass pasture with abundant Bog Myrtle on the Errochty Water (NN 781638) where we looked on posts for the **Great Brocade Moth**. This species rests on posts during the day and is easy to find, with a bit of patient searching. Four Moths were found all resting on the deer fence posts. The **Smoky Wave Moth** was also seen here, an uncommon moorland species.

Again the traps were set up overnight from Wednesday to Thursday, and the weather continued to be mild. The catch was similar to that of first night, with the addition of 12 more species. The **Scarce Silver-Y**, a nationally local moorland species, was of special interest to me as I had previously overlooked this species, because it is so similar to the **Silver-Y**. The **Dingy Shell** was a most unexpected catch, as it is very rare in Scotland, with only a handful of records. This species feeds on Alder, and was caught in a trap by the banks of the River Ardle, where there is some riparian Alder wood. But the best species of all was the **Cloaked Pug**. This species is very rare and is usually thought of as an immigrant, but it is likely to be resident in the woods around Kindrogan, because it is the second year running that it has been caught here on David's course, and there were no other migrant species. The **Cloaked Pug** feeds on the cones of conifers and is thought to need large mature specimens.

NO YELLOW RINGED CARPET ON THURSDAY

During the day on Thursday we visited a disused quarry near Dalwhinny on the river Truim. The idea of this visit was to see the Yellow Ringed Carpet, a species of geometer, which feeds on Yellow Saxifrage. Despite searching, and tapping the quarry face with our nets to disturb the Moths, we didn't see any here.

BUT ON FRIDAY .....

On Friday we visited Ben Lawers to search mainly for the **Mountain Ringlet**. This is one of the rarer Butterflies in the UK, as it is restricted to high mountain sites. Unfortunately the weather was against us and we didn't find it. During a brief spell the sun did come out long enough for us to see a single **Large Heath Butterfly**.

The highlight of the course for me was catching a Yellow Ringed Carpet in the Burn of Edramucky enclosure near the visitor centre at Ben Lawers. The habitat here looked right: lots of Yellow Saxifrage by the burn, with sheltered dry rock faces for the Moth to rest on by day. After tapping the rocks in several places and catching some of the closely related **Grey Mountain Carpet**, I managed to net a single **Yellow Ringed Carpet**. It is quite a difficult thing to catch, as you have to tap the rock face with the pole of your Moth net; the Moth then flings itself off the rock and flies away. In the meantime you have to rotate your pole around 180 degrees so that the net is now at the other end, to catch the Moth. This is not made any easier by the fact that the Moth's habitat is usually in quite steep-sided gorges where you have to balance on stones in the burn or walk along a rock ledge!

On the way back home from Kindrogan on the Saturday I stopped at the Cairnwell to see some mountain plants, including Mountain Avens, on a small outcrop of sugar limestone (NO 128780). After this I followed the course of the Allt a' Choire Dhirich burn down. After a while the burn started descending into a narrow gorge with calcareous rocks (NO130762). The walls of the gorge were quite rich botanically with Juniper, Melancholy Thistle and Holly Fern. Most importantly, Yellow Saxifrage was abundant. This made me think of the **Yellow Ringed Carpet** and I started tapping the rocks with the pole of my net. After catching about 20 **Grey Mountain Carpets** I finally got another **Yellow Ringed Carpet**.

Before this course I had never seen a **Yellow Ringed Carpet**, but after I had been shown the habitat and how to catch the Moth, I was turning it up everywhere I looked for it! It is often the case with rare species, similarly with plants; you never seem to see them until someone points them out and then you realise you have been walking around with your eyes shut!

SPRING IN THE SOUTH OF FRANCE

Jackie Muscott

Last spring Mary Clarkson, Jean Murray and I succumbed to the blandishments of southern France, encouraged by the advertisement for the B and B run by Andrew Richardson, Mike and Barbara's son. He has acquired the most extraordinary villa in the small town of Esperaza in the Aude region of France. The town was once the centre of a felt hat-making industry and this was the 'Maison du Chapelier'. It was built in the 1920s like a small castle, with stained glass, panelled hall and art-nouveau tile decoration on the exterior.

There's a hat museum in the town, and also a dinosaur museum as a new species *Ampelosaurus aticis* (popularly known as Eva) was recently unearthed nearby. There are a couple of geological walks from the museum, one of which goes past the ongoing excavations, which can be visited in the summer. Pleasant walks in dry weather, but less pleasant with the glutinous and slippery red mud we found there after rain. For we were unlucky with the weather, enjoying more cold wet days than warm dry ones. ('C'est une annee exceptionelle' they said.)

ON WET DAYS .....

We used the wet days to visit museums and castles. This is Cathar country, with spectacular castles scattered about on precipitous-looking rocks. Probably the most famous is the fortified medieval city of Carcassonne. From a distance the towers and spires (restored in late Victorian times) look like something out of a medieval manuscript. We explored the double walls and the old city (now given over to tourism) in the rain, but were rewarded with sunshine before we left. (Just as well, for as we drove out of town we suddenly realised the sun was on the wrong side of the car!)

Esperaza

AND ON FINE DAYS .....

There is a good deal of limestone in the area and on fine days we botanised. The day we arrived we found a note from the Richardsons urging us to visit an area close to the nearby village of Rennes le Chateau. We were just in time to see swathes of bright yellow Jonquils *Narcissus jonquilla* before they faded, while on the other side of the road the yellow theme was taken up by masses of Yellow Bee Orchids *Ophrys lutea*. We returned to the area later and found a total of 7 different species of Orchid, including the sinister-looking Violet Birdsnest *Limodorum abortivum*. In all we saw 13 different orchids, including the handsome Lady Orchid *Orchis purpurea* which we soon got accustomed to seeing by grassy roadsides, and Man Orchid *Acerus anthropophorum* in waste areas.

Yellow Bee Orchid

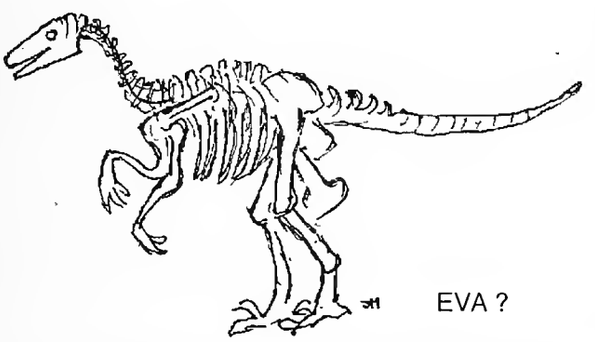
Lady Orchid

Man Orchid

Individual Orchid Flowers

We were left a puzzle by the Richardsons: a couple of dried-up specimens which looked just like Spike Rushes. However we eventually made the connection with the clumps of handsome violet-blue flowers which clung to rocks in dry places - *A p h y l l a n t h e s monspeliensis*, a relative of the Asphodel. Not that far away in shady ditches we found pink, blue and white specimens of *Hepatica nobilis* - alpine plants growing close to Mediterranean ones. Hedgerows and scrub included wild figs and vines near the town, with Snowy Mespilus *Amelanchior ovalis* and Bladder Senna *Colutea arborescens* both in flower, and here and there clumps of Mistletoe *Viscum album* on a variety of trees.

Aphyllanthes monspeliensis



EVA ?

NOT MANY BUTTERFLIES

We watched Red Squirrels, enjoyed the song of Larks and Nightingales, and were intrigued by a squeaky little bird which we eventually identified as a Serin. Given the weather we didn't see many butterflies, but we did get a sight of the southern form of the Speckled Wood; while British specimens *Pararge aegeria tircis* are brown with cream speckles, the southern race *P. aegeria aegeria* is brown with orange speckles - very confusing. Other insects included Fire Bugs *Pyrrhocoris apterus* and the Bloody-nosed Beetle *Timarcha tenebricosa*. The latter looks a bit like a Dor Beetle, but when alarmed exudes a drop of red 'blood' from its mouth - and it did!

Fire Bug
Red and Black

The town is still very French and not tarted up for the benefit of tourists, though this will doubtless come. Visitors should be aware however that (unless fixated on crepes and pizzas) they may need to eat out of town in the evenings. There are 2 restaurants, but they are not always open, and at least in April/May, you can't bank on one opening in the evening just because it says it will!

WHALE BONES OF THE BRITISH ISLES

Elizabeth Farquharson

As so many NATS helped me in the search for Whale bones and arches I thought that they would like to know the final outcome. When my Scottish list seemed to be fairly complete I contacted Nicholas Redman, who had been collecting records from all over the country for at least thirty years. I sent him a list and was delighted to find that we could add to his records. It also became clear that our list was far from complete. We gave him details of a second arch at Cellardyke, and of two arches, one now gone, at Cockenzie. We also solved the puzzle of an arch which had gone from Biggar and which is now in Peebles.

Nicholas has now produced a superb book covering the whole of the British Isles, including Ireland and the Channel Islands. There is a tremendous amount of fascinating information in the book, and whenever possible the history of the collection is given and many arches have been photographed.

Whale bones have only a limited life so one hopes this book may encourage the preservation of these reminders of our Whaling industry. A copy will be added to our library.

Whale Bones of the British Isles by Nicholas Redman *ISBN 0-9545800-0-1*

CREE VALLEY WOODLANDS PROJECT

Peter G Hopkins

During our week in Galloway we had a lovely walk with Peter up Glen Trool to the Robert the Bruce monument. He described the project to us and showed us this enchanting area..

The Cree Valley Community Woodlands Trust was established in 1998 following discussions at the Galloway Forest Environmental Panel, and at subsequent community meetings, supported by surveys and a feasibility study.

THE AIM OF THE PROJECT

The aim of the project is to establish a mosaic of woodland habitats from 'source to sea' delivering a Forest Habitat Network (Peterken,1995). The land forming the core of the project area was selected using the Inventory of Ancient, Long-established and Semi-natural Woodland for Wigtown district (Nature Conservancy Council, 1988), and the Galloway Forest Strategic Plan (2003). The land-owning partners who offered 550 ha to the project were the Forestry Commission Scotland, Dumfries and Galloway Council, the Royal Society for the Protection of Birds and Galloway Estates.

Approximately 3% of all the woodland (109 sites) in Wigtown district is classified as either ancient woodland, or long-established woodland of semi-natural origin. Many of the sites (77) occur along the River Cree or its tributaries. The ancient woodland sites are those which are shown on the OS 1:25000 Second Series maps, and are present on the Roy maps and on the OS 6-Inch First Edition, or are sites for which other evidence indicates an ancient origin. Long established sites are those on the OS 6-Inch First Edition Maps, but not shown as present on the Roy maps. All woodlands occurring on Roy maps have been included in the Inventory of Ancient Woodland; but many smaller woods, less than 2 ha, have been omitted. These small areas, if present, needed to be identified, as they could provide important opportunities for linkages between isolated woodland sites.

Some of the project's woodland sites have a formal nature conservation status ie. the Glentrool Oakwoods FCS (SSSI, proposed SAC), the Wood of Cree RSPB (SSSI, proposed SAC). Woodland sites with no formal conservation status include Camer Wood, Knockman Wood (FCS) and Garlies Wood (Galloway Estates). The areas known as Minnoch and Water of Trool (FCS) are riparian sites, formerly planted with Sitka Spruce. which after crop removal, have been planted with broadleaves.

THE GLENTROOL OAKWOODS

The most spectacular woodlands within the Cree Valley project, the Glentrool Oakwoods (69 ha), are found at the head of Loch Trool, and consist of the three interconnecting woodlands made up of Glenhead, Buchan and Caldons, each having a history that goes back to the 11th century. The woodlands fall away below the stone which commemorates Robert the Bruce's victory over an English army in 1307. It doesn't take much imagination to step back in time and reflect on how this vast woodland might have looked, spreading down into the Cree Valley. Today we see only remnants of the past, but the project vision is to create a 'mosaic' of woodland habitats from 'source to sea' throughout the Cree Valley. The woodlands are frequently referred to as 'Oakwoods', but as a descriptive term it is simplistic, blurring the subtleties of canopy and herb layer composition. Many of the woodlands on the moist, free draining, poor soils are dominated by pure Sessile Oak *Quercus petraea* (Anderson, 1967) with Silver Birch *Betula pendula,* and can be identified as either W17 or W11 under the NVC classification. In the flatter, wet areas Downy Birch *Betula pubescens*, Alder *Alnus glutinosa* and Ash *Fraxinus excelsior* are present producing a wet woodland (W7). At Glenhead the Sessile Oak consists of 200 year old specimens, while in contrast, the nearby Caldons Wood was managed by coppicing between 1800 and 1900, and tall straggly poles are now present. Intensive sheep grazing over 300 years has resulted in a poorly developed shrub and herb layer, although grasses and bryophytes make up an important component of the ground layer. Deer exclosures protect the natural regeneration of Hazel *Corylus avellana*, Holly *Ilex aquifolium* and Rowan *Sorbus aucuparia*; and in open areas Hawthorn *Crataegus monogyna* is present. These upland woods are noted for their lichens, with rich bryophyte communities in the cleughs, formed by the Buchan and Caldons burns.

During May, the spring bird migrants arrive and the woodlands become home to Redstart, Pied Flycatcher, Wood Warbler and Tree Pipit. Bird and Bat boxes have been strategically placed to encourage breeding. Seven species of Bat can be recorded, with Noctule *Nyctalus noctula* regularly using the boxes provided. Pine Martens are still present in Glentrool, the original Galloway translocation site.

IN CONTRAST, ALONG THE RIVERS .....

In striking contrast to the Glentrool Oakwoods, the riparian land of the Water of Trool (54 ha) and the Minnoch (44 ha), lying to the west of the Caldons Wood, was planted with Sitka Spruce. When this had been harvested, the area came under the management of CVCWT. Forty nine hectares of former conifer plantation have been planted with broadleaf tree species to achieve the vision of a woodland mosaic. Two large areas have been protected from Deer grazing pressure by the construction of temporary Deer fences, whereas in other areas, 60 cm mesh tubes have been used to protect individual trees, Deer management is also carried out. During 2001 the sudden appearance of 'foot and mouth' disease seriously impacted on the management of the newly planted broadleaves. Infestations of Pine Weevil *Hylobius abietis* resulted

in tree mortality among newly planted trees, and the lack of access for weed control led to competition from Tussock Grass *Deschampsia cespitosa.* The timetable for achieving the project outputs slipped, and a stage was reached when it was necessary to take stock of the viability of some of the initial proposals. In hindsight this pause was an invaluable opportunity to restructure proposals for the wetter sites. The extent and scale of the regular winter flooding in the riparian areas had not been appreciated during the initial project planning. Alder has now been planted to create riparian areas of wet Alder-Birch woodland (W7). In wet peaty habitats natural regeneration of Downy Birch has occurred close to seed sources. On the drier knolls local provenance Sessile Oak saplings grown in the CVCWT nursery have been planted, often in response to individual community requests.

In the Minnoch riparian habitat the flora and fauna is diverse: the woodland strip contains mature Sessile Oak, Holly, Rowan, Alder and Ash. The river banks are used by Otter, Sand Martin and occasionally Kingfisher. Since the removal of the conifer crop Red Grouse have returned to some of these drier knolls, whereas in areas of new planting and natural regeneration there have been new records of Butterflies ie. Small Copper, Ringlet and Small Pearl-bordered Fritillary.

CAMER WOOD

South of the Minnoch is Camer Wood (62 ha), an irregular-shaped ancient semi-natural woodland, consisting of regenerating Birch-Oak woodland. Many of the mature Oaks were felled during the 1950s, with the survivors concentrated around the perimeter of the site and on rockier ridges. Within the woodland there are areas rich in mosses: *Polytrichum formosum* and *Rhytidiadelphus loreus*; and species indicative of ancient woodland including *Dicranum majus* and *Mnium hornum*. The woodland had been under-planted with small patches of Douglas Fir *Pseudotsuga menziesii* during the late 1960s. In 1999 after taking the best silviculture advice, the Douglas Fir was deeply ring barked to increase the area of standing dead timber within the woodland. Within 12 months, the damaged bark tissue had repaired – a spectacular failure! During November 2004, conifers were drilled and treated with herbicide to create the desired standing dead timber. Some Douglas Fir and Sitka Spruce have been left as suitable habitat for Red Squirrel.

Two main stream courses run down broad marshy gulleys containing an Ash-Birch woodland (W9) with a Hazel-Willow understorey. Open areas have been created within the woodland and are used by Green-veined White and Orangetip Butterflies. The woodland is a wonderful wildlife spectacle during May for Bluebell *Hyacinthoides non-scripta.* A large area of woodland scrub, formerly a Sitka Spruce plantation, now links Camer Wood with the Wood of Cree, and supports Scotch Argus and Large Skipper Butterflies. A recent bird colonist has been the Grasshopper Warbler.

WOOD OF CREE

The Wood of Cree, an RSPB reserve, occupies 266 ha and is situated on a west-facing escarpment overlooking the Cree wetlands and grazing meadows. The Oak wood consists of areas of W11 and W17 classification types and it grades into Ashwoods (W7), Alderwoods (W9) and Willow carr. The site has a high degree of biodiversity, supporting one of the best examples of hydroseral fen development in Scotland. The Wood of Cree supports a rich mammal list including Otter, Red Squirrel, Water Shrew, Water Vole and Leisler's Bat, and in the spring it supports a wildlife spring spectacle of Bluebells. The wetland area contains 21 species of Sedge including *Carex aquatalis* and *C. elongata*, and is of regional importance for breeding Wood Warbler and Pied Flycatcher.

GARLIES WOOD

Garlies Wood (32 ha) is the southern-most block of ancient woodland within the project, and it is the site of Garlies Castle constructed during the 11th century. The ground flora is dominated by Bracken *Pteridium aquilinum*, and the woodland is grazed by Fallow Deer. Both Green Woodpecker and Great Spotted Woodpecker are present and the bird list includes Long-eared Owl and Hawfinch. The site is linked to the north-west by the pasture woodlands of Knockman. This is an interesting site, rich in saproxylic invertebrates and lichen, and it has a long history of human occupation.

FIND OUT MORE

Details of the project area and management of the woodlands can be accessed via the CVCWT web site **www.cvcwt.org.uk**.

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SWT FLYING FLOCK AND CONSERVATION GRAZING

Laura Cunningham - Shepherd

The Scottish Wildlife Trust (SWT) manages 122 Wildlife Reserves across Scotland to conserve and enhance a wide range of habitats and species. Practical management is often the key to maintaining and enhancing many of these habitats and species that have evolved in a landscape altered by the impact of man.

More than any other land use agriculture has changed the landscape and the wildlife that lives there, although after the initial clearance of woodland to make way for crops and livestock, development and change did not happen very quickly. Thousands of years of low-intensity farming allowed species to evolve and move into new niches created by man. Corn Cockles and Poppies in arable fields, and in the pastures and hay meadows, Trefoils, Orchids and Yellow Rattle became well established. Grazing was extensive with traditional breeds like Soay and Hebridean sheep, horses and cattle, e.g. Highlands, that were adapted to weather and rough grazing, and the demands on the soil were sensitive to its productive capacity, i.e. at a sustainable level. Low nutrient levels in the soil allowed smaller plants and finer grasses to establish a foothold and compete for light and nutrients. A good quality species-rich grassland can have as many as 40 different species in a single square metre. An improved agricultural field, sown and fertilised, will perhaps contain 3-4 species, and high nutrient levels allow larger and more competitive species to dominate. The broad diversity of species, and the dung of the stock provides a vast resource of food and nectar for invertebrates, which in turn support a wide array of birds and mammals.

However, the past 80-100 years have seen rapid development of agricultural policy and practices, leading to dramatic changes in the landscape. Species-rich permanent pastures and hay meadows have become a rare feature of our agricultural landscape. There is now less than 5% left (<3000ha), compared with Scotland's countryside 50 years ago.

The loss is generally attributable to mechanisation (cultivation of larger areas of land, and establishment of improved pastures), inappropriate grazing (over grazing can encourage Thistles, Willowherb, etc.; undergrazing will allow scrub and then woodland to develop, shading out the grassland species), fertilising, and development, which has left us with remnant patches, often steep slopes that couldn't be ploughed on farms, SSSIs and nature reserves.

Within Fife, SWT has 4 important grassland reserves, designated by Scottish Natural Heritage as Sites of Special Scientific Interest and either owned, or managed under agreement with the landowner. Due to changes in types of stock, restrictions over when a site could be grazed, due to the conservation interest and quality of improved agricultural pastures, all of these sites had suffered from a lack of suitable grazing. SWT continued to work with local graziers, where possible to manage these sites, but the aim of returning the reserve to favourable condition was still not being achieved.

A new approach had to be tried, and as part of a Heritage Lottery Fund bid, the Grazing Project was set up to graze 5 reserves in Fife: the grassland sites and a raised bog. We started with 50 Shetland sheep and now have over 200 sheep, including 30 Hebridean sheep for better scrub control. With our 'Flying Flock', we are now able to manage our own reserves and will work with other organisations, land owners and managers to promote the conservation and appropriate management of this scarce habitat, and to promote the use of traditional breeds.

Shetlands and Hebrideans are Primitive sheep both belonging to the Northern Short–tailed Sheep group. Shetlands have high quality fine and crimpy wool. With eleven whole colours and more than thirty markings they have the largest variety of colour and patterns of any breed. Shetland rams usually have two horns, and the ewes are usually polled (hornless).

Hebrideans are fine boned black sheep with 2 or more horns and a dense weatherproof fleece. Ewes weigh around 40kgs, Rams are proportionately larger. Their feet are exceptionally hard and they rarely suffer from foot problems. The very hardy constitution of both breeds means they are relatively low maintenance sheep, able to survive well on poor grazing. Hebrideans were specifically chosen for their tendency to browse on Birch scrub and have been used successfully to this end by SWT. Both breeds are light weight and therefore less likely to cause damage to reserves than larger commercial breeds. Primitive breeds are also excellent and prolific mothers, usually producing twins; triplets are not uncommon. Lambing problems are rare and ewes are able to exist on what would be to other breeds considered sparse grazing, producing good-sized lambs. Shetlands and Hebrideans also can be crossed with a relatively large commercial sire such as Suffolk, Beltex or Charolais to produce a viable market lamb.

In 2004 we lambed 30 Shetlands to a Cheviot ram. These cross-bred lambs are a source of income to the project, and 'reserve grazed lamb' is available to purchase! Shetland lamb is lean with superb flavour and is low in lipid fat - excellent for low cholesterol diets. In 2005 we are expecting our first Hebridean lambs, and another hundred ewes are with the Cheviot ram.

The Flying Flock is based mainly in the North-East of Fife, and is managed by Shepherds Laura Cunningham and Tim Brain and their team of dogs. The use of Border Collies allows the flock to be gathered for general health and well-being checks, and of course when the sheep are needed on another reserve. The sheep are controlled by the dogs in a calm and quiet manner, with animal welfare being our top priority. The sheep must respect the dogs but are not frightened, and are now well used to being gathered, penned and handled. They are of course very well travelled sheep and enjoy their trips so much that they have been known to load themselves into the trailer before the ramp is fully down! A dedicated team of volunteer shepherds checks the sheep at weekends.

If you would like to find out more about Scottish Wildlife Trust and the Flying Flock or are interested in becoming a volunteer shepherd (no previous experience required all training is provided) please visit SWT's website **www.swt.org.uk** or email - **laura@canineccunning.com**

GANNETS MOVING WESTWARD

Connie gave us a copy of this news item which was posted on the website of the Forth Valley Group of RSPB on 3rd October 2004. They and Lynn and Neil Bowser of Argaty Red Kites have kindly given us permission to reproduce the news item in our Journal. Does anyone have any more information? Do let us know and we will pass it on to the Forth Valley Group.

THE WEBSITE NOTE:

With the massive Bass Rock colony sited off North Berwick, Gannets can often be seen fishing and moving about in the Firth of Forth. But these movements are generally to be seen eastward of the Forth Bridges, after the estuary opens out into the firth. It is unusual to see Gannets upstream of the Bridges. Yet The Forth Group of the RSPB reported seeing group after group of Gannets moving westward at Kinneil and Skinflats on Saturday 25th September. A local birdwatcher whom they spoke to reported that he had been counting them go by for a few days. This is the time of year when the colony is dispersing, but where were the westward-moving birds heading. They could be aiming to cross to the west coast across the narrowest neck of land, but nobody could remember seeing such a movement before.

On the following Wednesday (29th), Lynn & Neil Bowser from the Lerrocks Farm Red Kite feeding station, by Doune, sent out a general e-mail which included the following report:

It has been the most extraordinary 24 hours at Argaty starting with a knock at the door late last night. It was a neighbour with an unidentified bird which he had found sitting disconsolate in a field here. On inspection it turned out to be a juvenile Gannet! On phoning Duncan Orr Ewing from the RSPB to share this unexpected appearance, it turned out that he had a visitor who had also picked up a young Gannet. It was agreed that the best thing to do was to get the two birds together so that the SSPCA could make just one collection this morning. So at nine o'clock a Forestry Commission van duly arrived with the young Gannet being held in the passenger seat by a very nervous employee, who obviously feared for his nose / hand - well, life, judging by the size of the Gannet's beak and the ferocity of the bird. Even more extraordinary though, was the SSPCA Inspector's report that he had another eleven Gannets to collect this morning before taking them all to sea and releasing them. The guess is that they have been blown off course in the last high winds and found themselves stranded in Central Scotland. We are beginning to wonder what will be brought to us next!

FORTH BIRDS GROUP RSPB WEBSITE - www.forthrspb.p5.org.uk/news.html; E-MAIL - mail@forthrspb.p5.org.uk
RED KITES WEBSITE - www.argatyredkites.co.uk E-MAIL - enquiries@argatyredkites.co.uk

AND NOW FOR SOMETHING COMPLETELY DIFFERENT (OR SO IT WAS MEANT TO BE!)

Roger Holme

The main holiday this year for globetrotting NATS Roger and Eunice Holme was a visit to the Great Lakes area of Canada and the USA. The plan was to fly to Toronto, spend some days in that region including Niagara Falls, then pick up a hire car and drive round the Great Lakes, ending up in Chicago. This is the story of what actually happened including an extremely fortunate meeting with very knowledgeable local botanists.

Arriving in Toronto via the direct flight from Edinburgh we went for a brief late evening trip up the CN tower. The observation deck with its famous glass floor at an elevation of 342m (1,122 ft) gives an excellent bird's eye view of the city below, though it is somewhat daunting to most: Eunice took quite some persuading before she could venture on to it.

Next day we took the train to Niagara Falls and spent most of the day doing the tourist bits, ending up in a beautiful hotel suite, complete with Jacuzzi and Falls View picture window which had a most spectacular view down onto the Falls. The next day Eunice went for a helicopter ride over the Falls area while Roger went for a walk into the United States.

Then we headed north into the Great Lakes area of Ontario to the Bruce Peninsula which lies approximately 150 miles north west of Toronto projecting into Lake Huron. It almost divides Lake Huron into 2 parts, the eastern part being known as Georgian Bay. The peninsula is part of the Niagara escarpment, a formation of dolomitic limestone cliffs, stretching several hundred miles north from Upper New York State through the Niagara area, eventually ending in the upper peninsular region of Michigan, in the USA. There are two small towns on the peninsula, Owen Sound at the south end, and Tobermory at the north end. Tobermory is a port for the car ferry to Manitoulin Island – the largest freshwater island in the world, which in turn is connected to the north shore of Lake Huron by a system of bridges and small islands. This is a particularly interesting place to visit, with an extremely rich flora. There are many species of Orchid as well as a number of different species of Trillium, the provincial flower of Ontario.

Near to the west peninsular coastal town of Oliphant, where we hoped to see some *Cypripedium* species, we had noticed a nature boardwalk. We learned that the Owen Sound Field Naturalists had purchased some land and constructed a boardwalk with information plaques. Arriving in the area in the late afternoon, we did not need to look very far to see lots of interesting species. There were large numbers of Lady's Slipper Orchid *Cypripedium calceolus* in the hedgerows. We also stumbled quite by accident on the stunningly beautiful Queen Lady's Slipper Orchid *Cypripedium reginae*. This surely must be one of the most beautiful species of Orchid anywhere. From the boardwalk the first plant that we noted was the Pitcher Plant *Sarracenia purpurea*, of which there were large numbers, many flowering with their distinctive purple flowers. We also saw the Tall White Bog Orchid *Platanthera dilatata*. Near to this, a Monarch Butterfly *Danaus plexippus* landed on a flower, and perfectly camouflaged among the ferns was a Leopard Frog. Also flowering in profusion was Slender Blue Eyed Grass *Sisyrinchium mucronatum*.

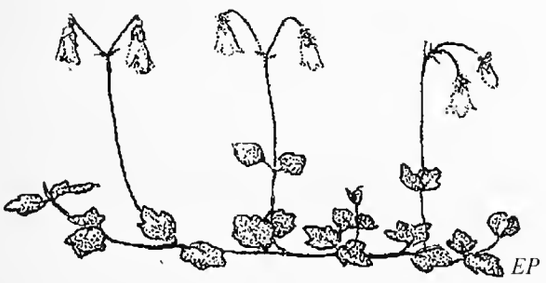
The next day we spent time exploring the minor gravel tracks heading north up the peninsula. The hedgerows were once again covered in Lady's Slipper Orchids in full flower. We stopped at one site which had particularly extensive alvars (limestone pavements), amongst which we found the rare Lakeside Daisy *Hymenoxys herbacea* in full flower, together with a couple of clumps of *Cornus canadensis*, called Bunchberry in these parts. Another prolific but exquisite flower was the *Polygala pauciflora*, known locally as Gaywings. As we arrived back at the car, a Camberwell Beauty *Nymphalis antiopa* flew by and dutifully landed near us, opening its wings in the sun.

Later while shopping in a village, we came across the local Naturalists' Guides produced by the Owen Sound Field Naturalists. As well as *A Checklist of Vascular Plants for Bruce and Grey Counties* there were quality, 100-page books with colour photos on *Orchids*; *Ferns*; *Asters, Goldenrods and Fleabanes*; and *Rare & Endangered Species*. We wondered at this small town Naturalists club that could not only buy land, but also produce a set of local field guides. I could not resist one, and purchased the Orchids guide. I commented to Eunice how much I would like to meet these people and go on one of their walks, but we were only in the area for a couple of days.

That evening we stayed at a superb B&B in Tobermory. The owners were very keen birdwatchers. They had lots of feeders and delighted in showing us some of their native birds, including the Eastern Bluebird, Northern Cardinal, Red Winged Blackbird, American Goldfinch, House Finch, Blue Jay, Chipping Sparrow and the Black-capped Chickadee. They encouraged us to visit Flowerpot Island the next day.

Flowerpot Island is a limestone island situated a couple of miles offshore in Lake Huron, and is named after the stacks of limestone found on its shores. We had been told that we would probably have the island to ourselves, but when we boarded the boat, there was a large party of people boarding at the same time. Early into the journey we noticed that they were all wearing badges with a flower on them. Our curiosity got the better of us, and on enquiring, we found that they were members of the Botanical Society of America on a field holiday. When asked if we could join their walk they said we should approach the leaders, who were local Naturalists. A lady introduced herself as a member of

the Owen Sound Field Naturalists, and on being told how impressed we were with their books, particularly the *Orchids* one, said that she was the co–author of that book! Looked like we had hit the jackpot! It then got better when they said that they would assign one of their most knowledgeable Naturalists to us, an ex-patriot Scot, who said that he would be happy to identify anything we asked about. Only a few minutes after we arrived on the island, they were identifying species unlike anything we had seen before. It was suggested that we would see too many new species to remember them all, so we were given a copy of the NATS checklist to tick off the plants we saw. One of the early finds was the Calypso Orchid *Calypso bulbosa;* this beautiful little Orchid caused a degree of excitement amongst the American Botanists, though many had seen it before. As we progressed through the island, we found more interesting species such as the Rattlesnake Fern *Botrychium virginianum*, and both Northern and Striped Coral Root Orchids *Corallorhiza trifida* and *C.striata.* I explained to our guide that one plant I particularly wanted to see was any member of the Trillium family. 'Just a minute' he said, and a few moments after disappearing into the woods, he triumphantly announced that he had found two species still in full flower. I hastily pursued him to find *Trillium erectum* and *T. grandiflorum*. The floor of the woods was covered in Twinflower *Linnaea borealis* and the Botanists were most surprised at the attention I was giving to this locally very common plant. All the while excitement was growing in the party, as we were to be shown a very rare Fern later in the walk.



TWINFLOWER
Linnaea borealis

On the coast we saw *Primula mistassinica* (very like our *P. farinosa*), Ontario Goldenrod *Solidago simplex var ontarioensis* and the One-flowered Cancer Root *Orabanche uniflora.* Eventually we reached the other side of the island, and to exclamations of excitement from the American Botanists we found one weedy specimen of the Fern that had been promised. I had been eagerly awaiting this Fern, but on approaching the plant, what did I hear but 'Gee, is that really the Wall-rue!' Yes, the most special plant of the day was none other than Wall-rue *Asplenium ruta-muraria.* I could not hide my disappointment, exclaiming 'Oh! Is that all!'. When questioned why I did not share the fevered excitement of the American botanists, I replied that the walls of my local area were covered in it! As we were leaving the island a sharp scream came from Eunice when a large Eastern Milk Snake slithered across the path in front of her.

Just before we left the island our guide told us where we could find the very rare Ram's Head Lady's Slipper *Cypripedium arietinum* back on the Bruce Peninsula. I particularly wanted to see this strange looking rarity. We travelled to the Singing Sands area, and after around 30 minutes were able to locate a perfectly flowering specimen. A super end to a wonderful day.

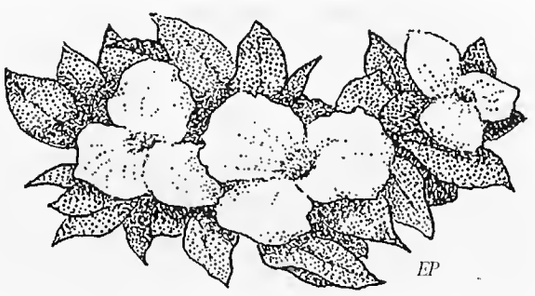
That day remained the highlight of the holiday, from the Natural History point of view at least. We travelled via the ferry from Tobermory over to Manitoulin Island the next day, and from there eventually to Sault Ste. Marie. On the way we stopped at an Indian Trading Post for a break. When I got out of the car I noticed a very large moth with its wings closed. It was the largest moth I have ever seen, so I went to get my camera and the moth obligingly opened its wings for me and posed for several minutes. Later in the holiday I was able to identify the moth as the Cecropia *Hyalophora cecropia,* with a wingspan of around 6 inches. Weren't we lucky - it normally only flies at night!

We then crossed the border into the Upper Peninsula of Michigan State in the USA and visited the Munising Falls on the southern shores of Lake Superior, and the lovely nature reserve nearby. There was a good number of the Pink Lady's Slipper Orchids *Cypripedium acaule* flowering, and the sound of Bullfrogs broke the silence.

After this we drove down the length of Lake Michigan to Chicago, to stay with relatives. They took us to the Indiana Dunes area at the south end of the Lake where we found many interesting plants, though in a very different habitat from the one we had been in much further north. The most interesting flowering species were the Eastern Prickly Pear Cactus *Opuntia humifosa*; a Spiderwort *Tradescantia ohioensis*; a Gromwell *Lithospermum caroliniense*; and 2 Milkweed species, *Asclepias syriaca* and *A. Tuberosa* much beloved of the Monarch Butterfly. There were also new birds in this area including the Downy Woodpecker, the Red Headed Woodpecker, the Cedar Waxwing, the Tufted Titmouse and the Brown Headed Cowbird.

Anyone wishing to know more about the excellent Owen Sound Field Naturalists should take a look at their website on **http://www.osfn.ca**

Please note that photos are available on request for all species quoted in this text.



TRILLIUM GRANDIFLORUM

HAZEL FLOWERING AT THE BOTANICS

Geoffrey Harper

The main phenology project at the Royal Botanic Garden, based on daily monitoring of flowering dates, is now entering its fourth year. A new 'weekly' project, using the method practised by Prof. Fred Last over a quarter of a century in his garden at Longniddry (see this *Journal* for 2003, pp.4-6), is starting this year: it records not just first flowering dates but also the end of flowering; so we should learn something about the duration of flowering, and how many times in the year each species flowers.

It is too early to report anything from the weekly project, but already interesting findings are emerging from the 'daily' project. Autumn-, winter- and early-spring-flowering-plants are attracting particular attention. Climate change seems to be affecting early spring flowers most strongly - much more so than late-spring and summer flowers, most of which are hardly affected.

Pride of place must go to Hazel *Corylus avellana* in the race to flower ever earlier. But before presenting the recent results, we are lucky in having records from the Botanics a century and a half ago, when essentially the same project was being run from 1850 to 1895. We have 38 first-flowering dates, based apparently on daily monitoring, of which 6 fell in March, 17 in February, and 15 in January, all but one being 14 January or later. The exception is one dated 1st January 1877, and from context it seems likely that this in fact came into flower in December, but the written record for 1877 began only on 1st January.

Although four Hazels are monitored at the Botanics, the earliest dates always come from a couple of magnificent coppiced bushes that many of you must know. They grow side by side on a lawn just south of the Chinese Hillside. Fortunately we know something about their provenance: both are just over a century old, having been acquired in 1902 (west bush) and 1903 (east bush) respectively. It is the east bush that generally flowers the earliest, and in 2002 it was only two days later than the west bush.

The recent first-flowering dates from the latter were 21 January '02, 4 January '03, c.7 January '04 and 31 December '04. For the purposes of analysis the dates are converted to Julian dates (i.e. the number of days from 1st January), which are 21, 4, 7 and 366 respectively; or, more usefully, 21, 4, 7 and -1 ('minus 1' means working backwards from 1st January). This gives an advancement in first-flowering date over three seasons of 22 days, averaging 7.3 days/year. Quite impressive.

For the east bush, the corresponding dates are 23 January '02, 26 December '02, 20 December '03 and 26 November '04, or in Julian dates 23, -6, -12 and -35. That comes to 58 days advancement over three seasons, or an average of 19.3 days/year. *Very* impressive!

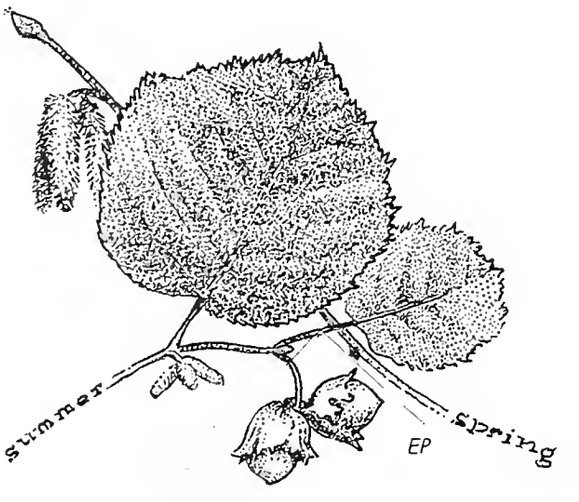
If the east bush keeps up that rate of advancement, in the next few years it will be flowering approximately on 8 November '05, 20 October '06, 2 October '07, 13 September '08 and 26 August '09. In other words Hazel - well, this one bush at least - will have become an autumn-flowering shrub in 4-5 years time.

Will this happen? I am keeping an open mind. It may be that our recent Hazel records are just a fluke, and that in the next few years the first-flowering dates will return to normal. Or it may be that these dates will hover around December and get no earlier.

On the other hand, there could be something interesting happening, in Hazel and other species, with regard to spring and autumn flowering. Some Rhododendrons normally flower in spring, but sometimes in addition flower in the autumn - in other words twice in the year. The new weekly project is designed to record this kind of information. On the other hand, a different approach has been adopted by Spurge Laurel *Daphne laureola*: according to *Flora of the British Isles* by Clapham, Tutin & Warburg (2nd edition, 1962) it flowers in this country from February to April, but at the Botanics it now flowers in September and remains in flower through to the spring - in other words a single extended flowering season. For any species that experienced the conditions of southern and particularly mediterranean Europe at some time in the last 10,000 years, it is possible that they became adapted to flowering at any time from autumn to spring, avoiding only the summer. From this, perhaps, arises the rather flexible approach some plants seem to have to when they flower.

For Hazel, CTW gives the flowering season as January-April. One possibility for the future is that Hazel will continue to flower earlier, year by year, until it becomes an autumn-flowering plant - or at least one that *begins* flowering in autumn, but continues sporadically over the succeeding months, with some plants flowering early and others (young ones?) later.

So, watch this space. **Or, better still, why not start to make your own observations?**



ANOTHER BIT OF PHENOLOGY .....
NEW DRAGONFLY ARRIVALS IN SCOTLAND

Betty Smith

Since 2002 there have been a number of reports of sightings of Dragonflies not hitherto recorded in Scotland. There has been a well-documented spread northwards throughout England, of species from the south of England. It appears that some of these southern species are venturing into Scotland and may turn up at any water body.

In 2003 a lone **Broad-bodied Chaser,** *Libellula depressa* was photographed at Craiglockhart Pond in Edinburgh. A well-established colony of **Banded Demoiselles** *Calopteryx splendens* was found in 2004 on a stream near Dalbeattie, which is now its one and only known breeding site in Scotland. The **Beautiful Demoiselle** *Calopteryx virgo*, hitherto the only Demoiselle in Scotland, breeds in rivers within a 50-mile radius of Oban. An **Emperor Dragonfly** *Anax imperator* was seen in non-breeding habitat in Galloway, and 2+ were seen on several occasions at a farm pond near Eyemouth in 2003. At the latter site a **Ruddy Darter** *Sympetrum sanguinium*, was seen several times in 2003. During 2004 both a male and a female Emperor were seen at the same pond, and the female appeared to be egg-laying.

An extraordinary sighting of a **Brown Hawker** *Aeshna grandis* from a cliff-top on Lunga in the Treshnish Islands in 2004 was reported. It was possibly wind-borne from Ireland where it breeds. **Migrant Hawker** *Aeshna mixta* has been reported from Cumnock, Ayrshire and from Lochmaben, Dumfriesshire.

Keep your eyes open and your field note book/camera handy and you may well have some exciting new records to report next year.

..... AND A BIT MORE PHENOLOGY

Jackie Muscott

By 15th September several bushes of Winter Jasmine *Jasminium nudiflorum* were beginning to flower in Marchmont, South Edinburgh, and the Holly bush *Ilex aquifolium* on the back green had ripe berries by the end of September.

When I went to feed the birds on 16th October, I was surprised to see the *Berberis darwinii* on the back green was coming into flower - and not just the odd branch, as sometimes happens. In Britain it's supposed to flower in the Spring, but in its native Chile it flowers in November, Interesting. Shortly afterwards I noticed other *Berberis darwinii* bushes in Marchmont with new flowers and still unripe fruit, not to mention a *Ceanothus* also coming into flower.

By 8th October several plants of Winter Heliotrope *Petasites fragrans* were in good flower below Edinburgh Castle. There's a large patch on the north side.

LET'S GET INVOLVED !

Natalie and Geoffrey have suggested that we get involved in recording first sightings and early flowerings. Let's start with these for 2005:

COMMA BUTTERFLIES
A few years ago Peacock Butterflies were uncommon hereabouts, but now we see them often. Commas are a more unusual sight but quite a lot were spotted in 2004: one at Roslin Glen on 28th April; one at The Hirsel on 17th July; one on the same day at Wallace's Cave; and one in a garden at Swanston from 31st August until 9th September. What will 2005 bring? Note down any sightings, please.
NUTHATCHES
Jean Murray had Nuthatches in her Galashiels garden last year, and they returned this year, from mid-November until December. They were also in Jeff Waddell's Galashiels garden about the same time. They were recorded on our Vogrie outing in November. Please let us know if you see any this year.
FROG SPAWN We have no Observations for 2004, but would like to know when you first see frog or toad spawn in 2005.
DIPPERS *See article on Page 8.*

FORTH ISLANDS BIRD COUNT 2004

Bill Bruce

THE COUNT

Getting out to the various islands is always very much dependent on the weather. This year we did not have too many problems landing – the only exception being Craigleith where the sea was too rough on the first attempt and the count had to be rescheduled. Obviously we, the counters, like good weather for our visits. The birds however, have no choice and must attempt to breed whatever the weather.

ISLE of MAY

The studies on the May Isle are much more intensive than on the other islands but the findings there can probably be extended to at least the North Berwick islands. On the May, although the numbers of adults returning to the islands were normal or above average, the number of birds actually attempting to breed was in many cases down. Then in late June the gales and heavy rain flooded Puffin burrows, drowning the chicks. Shag chicks were also vulnerable – too large to be covered by the brooding adult but too young to have adequate feathers for protection. The result being that the chicks died. This was the worst breeding season ever recorded for most seabirds on the May Isle.

SCARCITY of SAND EELS STILL CAUSING CONCERN

The researchers on the May Isle have uncovered another source of concern. Many species of seabirds rely on Sand Eels as a source of food. After commercial fishing for these on the Wee Bankie, at the mouth of the Forth, ended in 1999, the seabird breeding success seemed to improve. This year, however, although there was still no commercial fishing for Sand eels, there were so few about that they were largely absent from the diets of most seabirds. Although there is as yet no proof, the researchers fear that the ecosystems of the North Sea are being affected by climate change.

Fulmar: The peak was in 1997 when there were 2045 breeding pairs. This year numbers were down again, to 1364 nest sites. On the May Isle, breeding success was only 0.21 chicks per pair – less than half of that in 2003.

Cormorant: Generally, over the past ten years, the number of nests have been reasonably consistent. Although the number of nests this year are slightly up on last year (400 compared to 378) it is almost exactly on the average (ie 405) for those ten years.

Shag: Over the last 10 years there has been a steady increase in the number of nests. The number of nests today (ie 1690) is almost twice what it was in 1995 (ie 896). However this is down on last year's figure of 1794 nests. Many of the islands showed an increase – the biggest being on Craigleith with an extra 127 nests. Lamb and May Isle were the two islands to show a decrease - down by 13 and 281 respectively. May Isle reported that breeding started very late, many pairs did not breed, and of those that did breed many were unsuccessful. As a result only 0.25 chicks per pair were raised (compared to 1.83 last year) or 0.19 chicks per nest built. The St Abbs NNR reported slightly better success, with 0.30 chicks fledged per active nest though this was the lowest since 1990, when monitoring began.

Gannet: In the Firth of Forth, the only island where this species nests is the Bass Rock. Over the years they have spread rapidly, and have now practically covered the whole top of the island. This year there was a count of 48,065 nests which is 21% up on the previous count, a photographic survey in 1994, which gave an estimate of 39,751 sites. It appears that the rate of increase is now slowing down.

Gulls: Due to lack of manpower these are not counted on all islands. However where they were counted, the number of Greater Black-backed were up by one nest, to 38; Lesser Black-backed were similar to last year; and Herring were again down on the previous year's figures.

Kittiwake: The number of nests (ie 5,803) is up on last year's count (ie 5,453) but still approximately half of the 1997 count of 11,229. The May Isle studies revealed that breeding started extremely late and that 10% of the birds that started a nest did not lay. Then there was poor success with only 0.27 chicks fledged per active nest. St Abbs NNR also reported a success rate of 0.27.

Terns: Common, Arctic and Sandwich all showed an increase in the number of nests (ie from 221 to 238; 577 to 666 and 58 to 151 respectively); Roseate decreased from 8 nests to 4.

Razorbill: These reached a peak of 4,643 in 2001 and have decreased each year since. The number of nest sites is now 3,271. On the May Isle, many eggs were lost before hatching and the success rate was only 0.54 chicks per pair – much lower than the long term average. The researches here showed that for the first time, small clupeids (small Herring) replaced Sand Eels as the main food for the chicks.

Guillemot: These also reached a peak in 2001 of 37,876 and have then decreased each year. Now there are a total of 29,355 birds on the nesting cliffs. On the May Isle breeding started 7-10 days later than normal, and then the success rate was the lowest ever recorded there at 0.51 chicks per pair.

Puffin: There is an estimated 83,000+ occupied burrows on the Forth islands. On May Isle breeding success was one of the poorest ever recorded (0.60 chicks per pair). After many chicks were drowned in their burrows, the rate of growth of those that did survive was very poor, suggesting that there was a shortage of food. The average weight of chicks at fledging was the lowest recorded over the last 30 years.

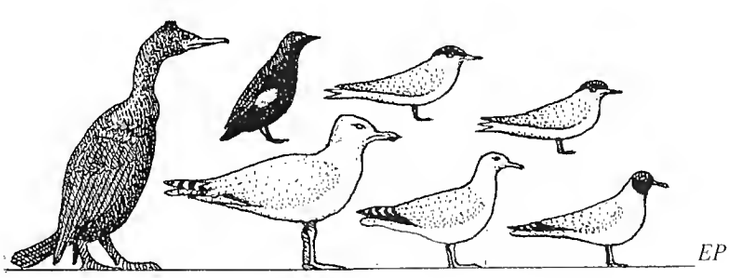
The above is summarised from the annual report produced by the Forth Seabird Group, to whom thanks are due for allowing its use here. This group is currently setting up a website containing copies of their reports and some analyses of the annual counts which started in 1959. You can access this at **www.forthseabirdgroup.org.uk**

SUMMARY of SEA BIRD COUNTS for the FORTH ISLANDS 2004

	Bass	C'Leith	Lamb	Fidra	Eye br'ty	Inch keith	Carr Crai	Inch col	Haystk	Inch Mick	Ig/Frb	Long Crai	May	Total
Fulmar (AOS)	40	136	7	204	0	306	0	205	0	24	206	0	236	**1364**
Cormorant (nests)	0	85+	96	0	0	137	82	0	0	0	0	0	0	**400**
Shag (nests)	46	324	111	272	0	153	10	4	5	78	0	0	687	**1690**
Gannet (nests)	48,065 all on the Bass													**48065**
Eider (nests)	x	x	0	69	2	x	2	x	0	142	62	8	1101	**1386**
Great B-b Gull (nests)	1	3	1	2	0	3	1	0	0	1	1	0	25	**38**
Lesser B-b Gull (nests)	4	x	0	90	0	x	>5	x	c3	134	23+	0	1221	**1480**
Herring Gull (nests)	169	x	38	1035	0	x	c30	x	c12	313	c189	0	2428	**4214**
Kittiwake (nests)	660	501	126	217	0	358	0	65	0	0	0	0	3876	**5803**
Common Tern (nests)	0	0	0	0	0	0	0	0	0	0	>5	171	62	**238**
Arctic Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	0	666	**666**
Roseate Tern (nests)														**4**
Sandwich Tern (nests)	0	0	0	0	0	0	0	0	0	0	0	0	151	**151**
Razorbill(Pairs/sites)	158	171	105	101	0	54	0	5	0	0	0	0	2677	**3271**
Guillemot	2260	1780	1744	566	0	35	0	0	0	0	0	0	22970	**29355**
Puffin (as stated)	x	x	x	x	0	78 ld	0	2 ld	0	16a/s	0	0	x	**>733**
						569 on sea		60 on sea		8 at sea				

Ig/Frb= Inchgarvie and Forth Rail Bridge

x = present but no count; 0 = non breeding; a/s = ashore; ld = on land.



EP

WHOSE HOUSE ????

Elizabeth Farquharson

Last year I commented on a Grey Squirrel that had decided that my garden and the fallen Crab Apples were his.

This year I have acquired a Fox that has taken a fancy to my house. Early in the year I would see a handsome dog Fox running along the garden wall, onto the tool shed roof, then down into a neighbour's garden. Also from time to time a vixen would cross the garden, usually about breakfast time, making her way towards Holy Corner. Had she a source of food there? She was very thin and scrawny, and her fur was in very poor condition. As the weeks went by she put on weight, and her general condition improved. As she was not feeding cubs I concluded that she had probably been born the previous spring.

It was on 5th June that the vixen made her first entry into the house. At about 6pm I was in the kitchen when she walked in. She was mildly apprehensive when I spoke to her quietly, then she turned round and left. Almost immediately she looked in through the kitchen window and decided to come in a second time. I told her this wasn't a good idea and she left. About 5 minutes later I left the kitchen and as I crossed the hall there she was coming into the house through the conservatory. Again I told her this wouldn't do, so she returned to the garden and sat beside my tools and a jersey. When she picked up my jersey I protested and she dropped it rather unwillingly and went away. However when I finished in the garden I met her coming away from the back door so I presume she had been indoors again.

Three weeks later, on 27th June I was in the conservatory writing letters and the back door was open. When I moved back into the house through the hall I met the vixen coming out of the sittingroom. She must have had tremendous curiosity to negotiate her way from the back door through the laundry, scullery, kitchen and hall to reach the sittingroom. From then on I was more careful about closing doors.

On 6th July she lay on the grass sunbathing, lying on her back and enjoying the sun on her tummy, while I picked fruit 20 yards away. I passed her frequently and she never moved. On 12th July she spent 4 hours in the garden, and again on 19th July she spent all afternoon with me, often only about 12 feet from where I was working. At one point she found my discarded jersey and had a wonderful game tossing it in the air, racing backwards in circles with it and rolling on it.

For the rest of July her visits were brief but early in August she again spent 4 hours in the garden with me.

Her last entry into the house was on 22nd August. I was sitting in the conservatory in the late afternoon when she walked in. She moved forward slowly and warily until she was 6 feet from me. She couldn't pluck up enough courage to pass me so went out, only to repeat the manoeuvre twice more.

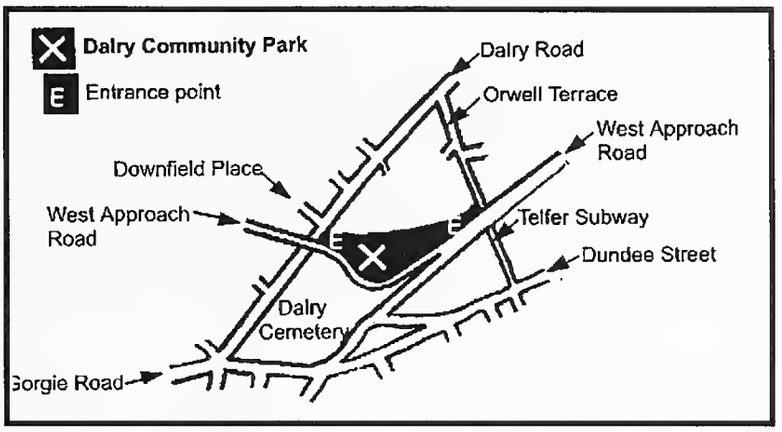
It is obvious that the vixen has little fear; that she has a good source of food; that she has abundant curiosity; and that she seems to like human company.

Fortunately her house manners have been impeccable, but she has developed an unattractive habit of 'ponging' at my back door, no doubt telling her colleagues that this is HER house. If she has cubs in 2005 will she bring them into my garden when they are big enough to jump the garden wall? I do hope so.

DALRY COMMUNITY PARK (NT238727)

Bob Saville

Most of the people who attended the walk on Wednesday evening of 21st July not only did not know the Park, but also were unaware of the struggle that took place in 1999 to protect the site. The tiny area (smaller than a football pitch) was originally a short section of the Haymarket to Leith branch line, and the remains of the Dalry station platform, now covered in Birch and Willows were pointed out during the walk. The Park is used for recreation, and now has a playground and 5-a-side pitch, surrounded by grassland, shrubs and trees



In 1998 a developer had other plans for the site - to convert the major part of it into a superstore. During the walk, the story was told of how the local people, and in particular the Gorgie/Dalry Community Council, fought to save the site. The developer hired consultants and a QC to make his case. A great deal of time was spent preparing and exchanging documents, culminating in the six day Public Inquiry held in 1999. During this, the walk leader (as a concerned local resident) argued the need to protect the biodiversity. In the end (despite feeling that we only had a slim chance of success because of the forceful arguments of the opposition), the Reporter decided that the need to protect the biodiversity and open space was more important than the development. Celebrations followed!

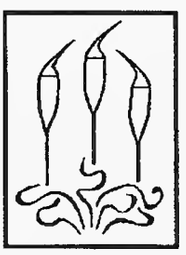
The developer then put in a second, slightly different application! It was at this point that the walk leader decided to find out about the invertebrates on the site (only plants had so far been recorded). These studies turned up a good number of interesting finds and a hunt to see if some of these species were still on the site provided the focus of the NATS walk.

The shaking of the branches of a Birch tree over the beating tray resulted in the finding of several specimens of the bright green, nationally-notable weevil *Polydrusus splendidus* for which this is the only site in Scotland! Also found were the leaf-mines of the fly *Agromyza frontella*, which until its discovery in the Park, was only known from southern England. The larvae of this tiny black fly feed only on Lucerne *Medicago sativa* and the swathes of this plant with flowers from pale lilac to purple are a conspicuous feature of the Park. In the same area, spikes of Sainfoin *Onobrychis viciifolia* were pointed out.

A sweep net was used to hunt for the large weevil *Otiorhynchus armadillo*, the Park being one of the few places in Britain where this species has been found. The hunt, however, was unsuccessful, but provided an opportunity to point out and talk about some of the other invertebrates that can be found -heteropteran bugs, hoppers, spiders, harvestmen, springtails, parasitic wasps etc.

In the kids' sandpit area a hunt for the holes of Digger Wasps was successful, and also we found several of the other residents of the area - ground beetles, ants, harvestmen and, curiously, the Common Shorebug *Sadula saltatoria*.

A list of the 500 plants and animals recorded at the site was handed out at the start of the walk. This list includes 36 locally or nationally significant species, and is the same list that was provided to the consultant working for the developer on the second application. Nothing more was heard of the application!



There is a small patch, one inch square, of the cushion-like moss *Weissia rutilans*. This tiny plant is rare in Scotland and because it played an important role in safeguarding the Park from development, it is being used as the emblem of the Park.

This amazing little site was saved from development for the enjoyment of us all, by the hard work and dedication of local people, especially Bob Saville. If you would like to find out more, there is a lovely little booklet - The Wildlife of Dalry Community Park - *available from Bob Saville at* BobSavillenfo@lothianwildlife.co.uk *Eds.*

MAVISBANK

Tom Delaney

Mavisbank lies on the north bank of the North Esk valley, between Polton village and Lasswade. It is part of the Edinburgh Green Belt and an Area of Outstanding Natural Beauty. It comprises the ruinous remains of the once spectacularly lovely Mavisbank House and the associated designed landscape and policies, which through decades of neglect have reverted to a fascinating mosaic of habitats. The whole belongs to Historic Scotland.

THE START

Although the previous day and the day after were marked by heavy rain, we were fortunate in having a fine evening at the end of a warm day for our excursion. We met at Polton Bridge; a complement of 23 members turned out, causing unprecedented parking difficulties, solved by nifty manoeuvring of local residents' wheelie bins.

Before everyone arrived we looked briefly at the adjacent Springfield Mill wildlife site, which, now cleared of all its derelict buildings, is starting to show what a fine reserve this former paper mill site will become. The impoverished rubble-based soil is already rich in botanical interest and will be an interesting venue for a future foray. This site was saved from a highly inappropriate luxury housing development only by the determination and hard work of the local Save Mavisbank Action Group.

From the bridge, although we didn't see the hoped-for Kingfisher and Grey Wagtail, we did see Dipper, which appeared to be nesting close by, and had a distant view of the Sand Martin colony on the high sand cliff, overlooking the site.

GARDEN AND HOUSE

Entering the estate (with permission) via the privately-owned road, we walked up by the remarkably large, circular walled garden. It is in a good state of preservation, housing a commercial tree nursery. Swallow and Swift flew overhead.

As we approached the house, Rhododendrons *R. ponticum* in flower lined the drive, and from the surrounding wooded slopes a Blackcap sang, against competition from Songthrush, Blackbird and Robin. Little sign remains of any formal garden here, but there was an array of introduced shrubs of Guelder Rose *Viburnum opulus* (sterile form), one of the Snowball trees and a Plum tree. There was also a large Globe Thistle and some colourful Rhododendron cultivars. Sweet Rocket, also called Dame's Violet, *Hesperis matronalis* was in fragrant abundance, and the first leaves were emerging of a large, decorative Cardueline. From close to, we could clearly see the sad state of Mavisbank House itself. The years of neglect have taken a terrible toll. With terrifying subsidence cracks, it is kept upright only by a web of scaffolding and a patchwork of brickwork repairs; the 12 foot security fence, although clearly necessary, adds to the sense of dereliction. Despite this, the beauty of the original is still perceptible, and it is to be hoped that the remains can be saved from irretrievable collapse. A colony of Jackdaws inhabits the ruin, and Bats have been seen around the building on previous occasions, meriting further investigation.

THE POLICIES

Climbing over a rail fence, and pausing under an ancient conifer, we were able to admire at close quarters the temporary home of a swarm of Honey Bees, clustering on an immaculate white honeycomb attached to a branch just above head height. A Fox, no doubt baffled at our invasion of its normally undisturbed territory, took a long look at us before cantering into the undergrowth.

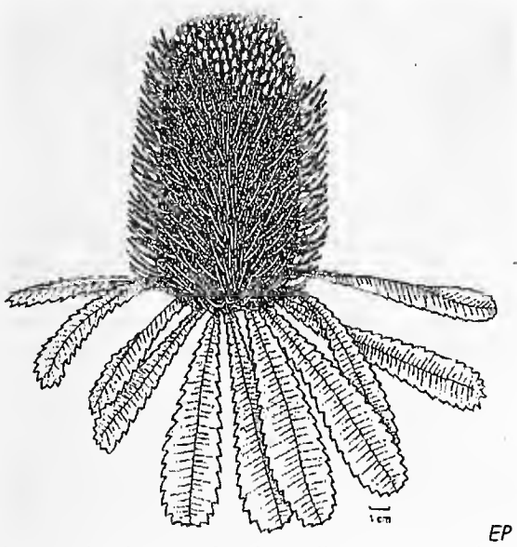
Our walk took us next across open meadow, short-cropped by the many horses that are kept here, and to the 'canal', a man-made feature of the original designed landscape. It is now silted up by the muddy outflow from springs along the bank above, and appears as a shallow pool with natural margins. Here we saw splendid populations of Yellow Water-lily *Nuphar lutea* and Yellow Flag Iris *Iris pseudacorus,* both in flower, and at the east end an extensive bed of Giant Horsetail *Equisetum telmateia.* The quiet chip of a Great Spotted Woodpecker gave us the chance to spot him in the open on a dead branch at the tip of one of the magnificent ancient trees in this part of the estate. Many of these probably date back to the original setting of the designed landscape in the 18th century and include fine specimens of Oak, Sweet Chestnut and Cherry. A sad case however is a Beech of huge height and spread, with a trunk of colossal girth. Badly rotted near the base, probably through horse damage, and having shed some of its massive main branches, this giant is still fighting for survival and was covered in new foliage and heavy with young Beech mast.

Beyond this open ancient woodland, a convenient network of horse-trodden paths leads up between steep banks, wet flushes and higher scrub-covered slopes, where earlier Whitethroat, Willow Warbler and Chiffchaff had been heard singing. From here we were able to view the surprising variety of habitats encompassed in this small estate, and appreciate the unique tranquillity and beauty of this magic lost valley. Yellowhammer was seen and Reed Bunting heard as we descended towards the river among the now curious herd of horses. They gathered around us in the hope of tit-bits, which was unfulfilled, except I think, for an offering from our Hon Sec.

RIVER BANK

The walk back to the start-point took us along the riverside path, which unfortunately had only recently been strimmed by our ever diligent Midlothian Council. Nevertheless, a good variety of damp-loving plants was found, including Fringe Cups *Tellima grandiflora* and its not so obvious congener Pick-a-back Plant *Tolmiea menziesii.* Although its flowers were long over, the leaves of Butterbur were now of Rhubarb dimensions, more swathes of Giant Horsetail lined the riverbank along with spreads of Ramsons *Allium ursinum*, fragrant Sweet Rocket *Hesperis matronalis*, Wood Stitchwort *Stellaria nemorum* and many others.

Back at the bridge, Andrew counted us and found all present and correct, plus one!



EP

THE FUTURE

Mavisbank House is an architectural gem which has a fascinating though latterly quite depressing history. It is currently the object of development plans by the Edinburgh Green Belt Trust, which is seeking £7m of public funding to convert the building to a restored shell, housing a modern interior, to be used as a holiday let and as offices for the EGBT.

More concerning to us, is the intention with regard to the grounds. As we saw during our visit, they currently present a rich mosaic of highly diverse natural and semi-natural habitats. The plan is to turn them into a country park, the nature of which is unspecified but feared to be for popular recreation rather than conservation. In view of their natural history interest and the unique biodiversity of the site, we believe that the grounds should be protected from undue and damaging disturbance and preserved rather as a local nature reserve, of which Midlothian has only one.

If readers would like to know more about plans for the future of Mavisbank, and would like to help protect the natural-history interest of the policies, please look at: **http://www.mavisbank.plus.com/**

AN ANTIPODEAN SPECIALITY

Margaret Perry

Banksia bushes are a prominent and decorative feature of the Australian landscape, growing mostly in the temperate zones of the S.E. and S.W. coastal strips of the country. There are some 80 different species, ranging from low-lying shrubs to fairly tall trees. These plants were named after the botanist Joseph Banks. He collected the first known specimens in 1770 from the district of Botany Bay, during his voyage as chief scientist on Cook's first expedition to the South Seas on the *Endeavour*. Throughout his life, Banks made an enormous contribution to the corpus of botanical knowledge. He was instrumental in the establishment of Kew Gardens, and later became President of the Royal Society of London.

The plants are remarkable for their colourful floral cones in yellows, oranges, red or creams. The cones can be 15 cms or so in length, and in the largest species they are as long as 40 cms. They are formed of a central, woody axis bearing hundreds of individual flowers with hairy bracts. As the flower opens, the stigma is released on its long, wiry style to become available for cross-pollination. These protruding styles give the cones a bottle-brush appearance.

Along with many Australian flora, Banksias have developed several strategies for survival in forest fires. The formation of woody tubers, bearing dormant buds just below ground level, is the most common. After a fire has destroyed the plant above ground, the buds are stimulated to develop new shoots. Also, dormant buds on the trunks of taller species are protected by a very thick fire-resistant bark. In a third method, the woody fruits or nuts of many species remain closed, sometimes for years, and will open only if subjected to heat.

The timber has no great commercial value, as it lacks any degree of strength. However, many attractive products are found in the local craft shops. The massive cones of *Banksia grandis* are sectioned transversely to make table mats, and some are fashioned into a variety of ornaments. Indeed, the visitor cannot leave the continent without being aware of one of its most picturesque plants.

FOSSILS IN THE ROCKS: THE RHYNIE CHERT

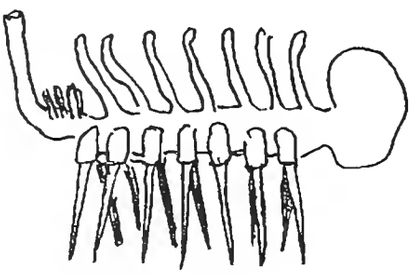
Jackie Muscott

BURGESS SHALES AGAIN

Last yeor Morgoret Perry wrote about the Burgess Shale, one of the 20th century's most important fossil finds, since it allowed the reconstruction of soft-bodied morine creatures from about 530 million years ago. Soft-bodied animals, like plants, decay rapidly so that fossil remains are often little more than a smeor or impression. However the Burgess Shole creotures were preserved squashed but entire. Some were initiolly misunderstood, but were reinterpreted by a group of Cambridge scientists in the 1970s and 80s. And even they mode mistokes. In Stephen J Gould's book *Wonderful Life* there's a reconstruction of o bizorre creature called Hallucigenia: however if you turn it upside down and add an extro set of legs it doesn't look quite so odd!

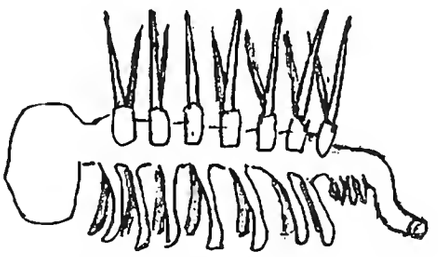
WHAT ON EARTH IS THIS ??

A BIT ODD .....



Hallucigenia
Original construction

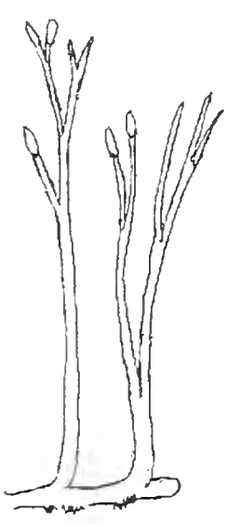
..... NOT QUITE SO ODD ?



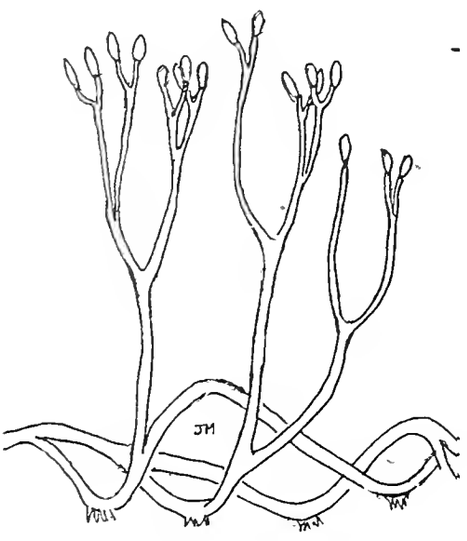
Hallucigenia
The other way up, and with the rest of its legs

THE RHYNIE CHERT, the plont equivolent of the Burgess Shole, was discovered just o little loter, but much neorer to home, ot Rhynie in Aberdeenshire. It contoins entire plonts doting from oround 395 million yeors ogo, when plonts were beginning to colonise the lond. These plonts were growing in worm wet oreos close to volconic octivity, and after eruptions they became encopsuloted in o kind of silica gel - like flies in omber. By cutting thin slices through the chert, successive cross-sections through the plant are reveoled, ollowing reconstruction (a similor principle to the CT scan).

There is a smoll disploy of Rhynie plants in the Evolution section of the Museum of Scotlond (Chombers Street). Unfortunately it is now out of dote. One of the commoner plonts, originolly colled *Rhynia major*, hos now been reconstructed somewhot differently ond renomed *Aglaophyton major*. It was about 18 cm high, leofless, ond with terminol spore copsules. A group of the plonts probobly looked o bit like o clump of modern clubrushes, but whereos clubrushes hove proper (if tiny) flowers, the Rhynie plonts were oll cryptogoms. Like modern ferns they had 2 generotions, the sporophyte generation whose spores gove rise to the gometophyte generotion which beors mole ond femole gometes ('sperm' ond 'eggs'), whose union produced the next sporophytes. But whereos modern fern gometophytes ore smoll scrops of tissue less thon 1 cm ocross, the Rhynie gametophytes were much the some size os the sporophytes, and hove been given nomes. (The *Aglaophyton major* gometophyte is believed to be a plont colled *Lyonophyton rhyniensis*.)

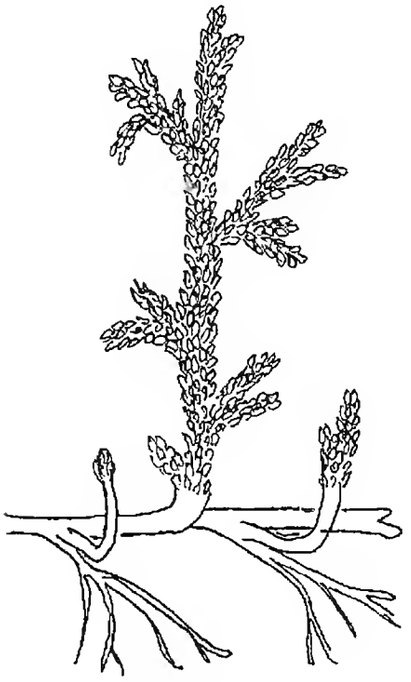


Rhynia major
original reconstruction

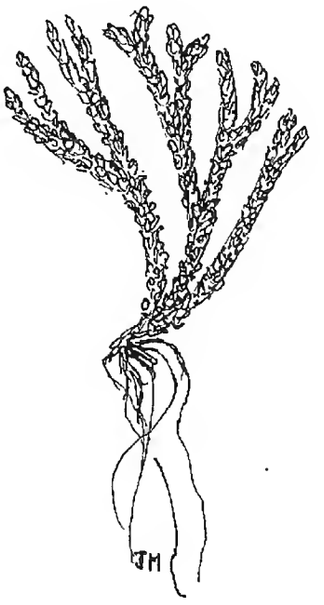


Aglaophyton (Rhynia) major
more recent reconstruction

Another really interesting Rhynie plant is *Asteroxylon mackei* (named after Dr Mackie who first discovered the chert while doing a geological survey, and recognised its importance). This plant is a clubmoss, one of the first plant groups to bear leaves. It was about 20 cm high and bears a striking resemblance to some modern clubmosses (some of which can still be found near areas of volcanic activity). Clubmosses are sometimes described as primitive plants; however considering how long they have been around, 'successful' would be as good an adjective!



Asteroxylon mackei
A 400-million-year-old Clubmoss



Fir clubmoss Huperzia selago
a modern British Clubmoss

The Rhynie finds are not confined to plants. There are fungal hyphae, probably both saprophytic and mycorrhizal, a primitive lichen *Winfrenatia* and small animals such as mites and springtails; a whole ecology in fact.

The Rhynie plants though early are not the very earliest known land plants. That honour goes to the *Cooksonia* group of plants which were around about 425 million years ago. These were widespread, remains being found as far apart as Bolivia and Kazakstan, the oldest known examples coming from Ireland. They were tiny plants, less than 1 cm tall, but with a primitive vascular (circulatory) system, and so definitely adapted to life on land.

Ref: *Invasion of the Land* by B A Thomas & C J Cleal, National Museums and Galleries of Wales, 2000
Plants invade the Land, by W G Chaloner & P Macdonald, Royal Scottish Museum, HMSO, 1980

Back Numbers of *British Wildlife* Magazine

Geoffrey Harper

The Library of the Royal Botanic Garden is trying to complete its run of the excellent magazine *British Wildlife*. The following numbers are still needed:

vol.1, parts 2 & 3
vol.4, parts 1 & 2
vol.5, part 1
vol.11, part 5
vol.12, part 3

If anyone can help, I'd be most grateful.

Copies can be sent to me for donation to the Library, or I am willing to buy copies at £2.50 each for the Library. I have already bought all numbers still available from the publisher, and am keeping them informed of which other numbers I manage to acquire.

A BORDER NATURALIST'S DIARY FOR 2004

Jeff Waddell

My Garden is in the Ladhope area of Galashiels

JANUARY

1st Greenfinch feeding on rosehips at Ladhope, Galashiels.

12th Weasel in hedgerow; Nuthatch on bird table and Travellers Joy naturalised in woodland, Woodend, Jedburgh.

19th A Pale Brindled-beauty Moth in the moth trap, the first moth this year in my garden.

21st Six Spring Usher and two Dotted Border Moths in the moth trap at Harestanes, Jedburgh.

30th Field Vole found dead during cold spell, at Ladhope, Galashiels.

FEBRUARY

6th Several Whooper Swans on the flooded moss, Murder Moss, Selkirk.

10th Short-eared Owl flushed from sand dunes at Aberlady Bay, East Lothian.

MARCH

1st Stoat in ermine and Black Spleenwort on Crags, Ettrickbridge, Selkirkshire.

15th The first Common Frog spawn I saw this year, Shewalton Sandpits, SWT Reserve, Ayrshire.

17th Toads mating, Lanton Moor. Jedburgh.

21st Several Stonechats, Blythe Water and a pair of Curlew, at Brunta Burn, both near Lauder.

22nd Barn Owl seen in car headlights during snow storm, Whitlee, Redesdale, Northumberland.

23rd A solitary Juniper bush in the Craighope Burn, Yarrow Valley, Selkirkshire.

25th Large colony of Yellow Star of Bethlehem and Aspen, Cleghorn Glen NNR) Lanark.

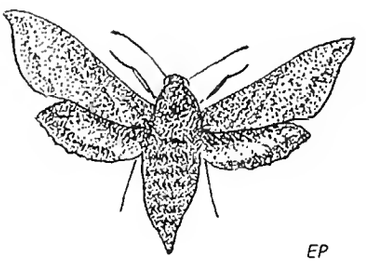
27th Pine Beauty Moth in garden moth trap; Early Tooth-striped in moth trap at Gordon Moss SWT Reserve.

28th Barn Owl flushed from trees, Ladhope Moor, Galashiels.

30th My first Butterfly of the year, a Peacock, Bidden Cleuch, Jed Water, Jedburgh.

APRIL

3rd A pupa found by one of the NATS on the Barns Ness walk today was given to me for rearing: a Small Elephant Hawk-moth emerged from this on the 7th of May.



EP

SMALL ELEPHANT HAWK-MOTH

6th Melancholy Thistle by the waterfall, Hilly Linn near Jedburgh.

9th Glory-of–the-snow and Garden Arabis. naturalised in the ancient wood at Denholm Dean.

11th Three Chiffchaff calling, Newtown St Boswells woods.

15th Osprey seen in the Ettrick Valley, Selkirkshire. A fisherman phoned the police after he saw me running along the road with my moth net at dusk!

25th Blackcap was seen. as were 5 Spindle bushes in Newtown St Boswells woods.

30th Common Fiddleneck flowering and Garden Tiger larva on White Dead-nettle in arable field margin. Glen Plantation. Sunlaws House. near Jedburgh.

MAY *Moved to Aberdeen mid month*

3rd A single Green Hairstreak Butterfly was seen by the banks of the Hartsgarth Burn; and a new county record Roxburghshire: Round-leaved Crowfoot in a shallow ditch at Hartsgarth. near Newcastleton. Common Morel and Fairies' Bonnets fungus at Newtown St Boswells woods.

7th Pine Beauty, Herald and Least Black Arches moths caught in a moth trap at Stobo. Peebleshire and a Barn Owl driving home at Glentress.

8th Mountain Everlasting seen on the Allan Water, near Hawick.

12th Another population of Bird's-nest Orchid found in the Jed Water woods at Bidden Cleuch, near Jedburgh. Dried flower spikes from last year were seen today and checked to confirm later in the season.

15th Cuckoo calling, Loch Muick, upper Deeside, South Aberdeenshire.

22nd National Moth Night 2004: Three Netted Mountain Moth caught, Bearberry, The Strone, near Ballater.

24th My birthday ! Coralroot Orchid seen in Willow carr at Red Moss of Netherly, Kincardineshire with Warbler and Cuckoo heard nearby.
Bloody Cranesbill seen on the coast at Findon. Kincardineshire.

29th Visited Culbin Forest near Elgin: Marsh Club-moss, Grey Hair-grass, Shepherds Cress, Serrated Wintergreen, Narrow-leaved and Dwarf Eelgrass, Coralroot Orchid, Twinflower, Lesser Twayblade. Dingy Skipper and Speckled Wood butterflies were also seen.

31st 11 flowering stems of Sand Leek in bud on the dunes, King's Links, Aberdeen.

WOOD TIGER MOTH

JUNE

5th Barn Owl seen flying over road near Drumoak, South Aberdeenshire.

6th Pearl-bordered Fritillary at Cambus O' May, Deeside.
Alpine Cinquefoil and Hairy Rock-cress on crags at Morrone Birkwood NNR.

7th Jay seen in woodland near Cults, Aberdeen.

9th 10+ Small Pearl-bordered Fritillary seen at a site near Cults, Aberdeen.

10th Viviparous Lizard seen in heathland near Cults, Aberdeen.

12th 30+ plants of Oysterplant on coastal shingle near Collieston, Forvie NNR, North Aberdeenshire. Wood Tiger Moths flying near by.

22nd Corn Marigold, Common Poppy and Opium Poppy in weedy area of disturbed field, Slopefield, Aberdeen. First Ringlet Butterflies of the year seen at Hazelhead, Aberdeen.

25th Single Dotted Wave Moth in the Moth trap at Newtown St Boswells Woods.

JULY

10th Corrie Bhachdaidh, Perthshire. Plants seen included: Alpine Cinquefoil, Sheathed Sedge, Small White Orchid, Frog Orchid, Whortle-leaved Willow, Sibbaldia, Interrupted Clubmoss and Dwarf Birch. The uncommon Striped Twin-spot Carpet moth was also caught. Here I had a close encounter with a Golden Eagle on Carn Dearg as I was walking along the summit and flushed the bird from the ground a few metres in front of me. Instead of flying away from me it flew over my head, amazingly close!

16th Large Heath butterfly and Yellow Ringed Carpet Moth at Ben Lawers, Perthshire; see article Page

17th Mountain Avens, Hair Sedge and Yellow Ringed Carpet at the Cairnwell, Glenshee.

18th The dunes at St Cyrus NNR were blue with Clustered Bellflower; Peregrines were heard and seen on the cliffs behind the beach.

19th Common Twayblade and Bay Willow in Alder wood at Murtle Den, Aberdeen.

21st Kingfisher seen on the River Dee, Aberdeen, today and on several days into August. This is as far north as they come in the U.K.

23rd The rare Moth - Manchester Treble Bar, which feeds on Cranberry - was seen flying in sunshine on Branxholme Wester Loch SSSI.
10+ Magpie and two Phoenix Moths caught in the traps at Newtown St Boswells Woods later that night.

24th A single Straw Underwing Moth caught on Allan Water, nr Hawick; it is local and mainly coastal in Scotland.

25th The nationally-scarce moth, the Northern Arches, was a surprise catch in the moth trap at Branxholme Wester Loch SSSI, near Hawick. Scarce Silver-Y and Straw Dot were also caught.

AUGUST

5th Spurge Laurel in the policy woodlands at Ardoe House Hotel, a new record for Kincardineshire.

6th Two Great Brocade Moths were caught in my garden moth trap, Westhill, near Aberdeen. These were migrants from continental Europe.

7th Arctic Mouse-ear, one plant on a cliff ledge, top of the Black Spout, on right hand side, Lochnagar, Dark-green Fritillary and Large Heath Butterflies near Loch Muick below. South Aberdeenshire.

11th Lily of the Valley, planted by track, Heathcot, Kincardineshire, apparently a new county record.

12th One plant of Field Scabious by the Burn of Ardoe, Jockston, Kincardineshire.
Moth trapping at Culbin Forest SSSI: Angle-striped Sallow, Portland Moth, Broom-tip, Plain Clay and Archer's Dart.

14th Alpine plants in Corrie Loch Kander: Dwarf Cudweed, Downy Willow, Woolly Willow, Net-leaved Willow, Whortle-leaved Willow, Serrated Wintergreen, Alpine Saw-wort, Black Alpine Sedge, Frog Orchid and Holly Fern. Other species on the ascent and descent: Blue Hare, Ptarmigan, Scotch Argus and Dark-green Fritillary.

15th Dickie's Bladder Fern in a sea cave near Aberdeen, with Sea Spleenwort nearby.

20th Barn Owl in car headlights, Threepwood, near Lauder.

21st Great Burnet, Bog Sedge and Round-leaved Wintergreen in rich fen vegetation, Beanrig Moss, near Selkirk. Moth trapping night with NATS. At Wooplaw woods, near Lauder. See artiele Page

22nd Betony, Frog Orchid and the nationally rare, Northern Hawk's-beard on Heron Hill, near Hawick.

26th Several hundred spikes of Heath Cudweed at Gallow Hill, near Aberdeen, Kincardineshire.

31st Some interesting arable weeds growing in recently sown Rye-grass leys: Corn Marigold, Common Poppy, Pot Marigold! and Cornflower at Turnamiddle, ncar Aberdeen.

SEPTEMBER

4th Spring Sandwort on the Craigs of Succoth SSSI, North Aberdeenshire.
Scotch Argus flying over flushed Purple Moor Grass pasture with Broad-leaved Cottongrass and Grass of Parnassus, White Hill, North Abcrdeenshire.
A single specimen of the Blood-vein Moth in a moth trap on the sea cliffs at Muchalls, Kincardineshire, during an influx of migrant moths.

8th Purple Milk-vetch and Kidney Vetch at Bareside Point, Kincardineshire coast, near Aberdeen.

19th Fools Parsley, a weed in Roger Holmes garden, Kirkliston, West Lothian.

20th Hemp Agrimony, Aspen and Scots Lovage on sea braes, Horse Shoe, Kincardineshire Coast, near Aberdeen.

28th A single Red Sword-grass Moth attracted to a lit window, Westhill, near Aberdeen.

OCTOBER *Moved back to Galashiels this month.*

6th Least Bur-reed in natural channels in fen peat. Lochan an Daim, Perthshire.

8th Juniper Carpet ssp *juniperata* in garden moth trap, Ulverston, south Cumbria, on Arnside Field Trip.

10th Round-leaved Wintergreen, Knotted Pearlwort, Sea Spurge, Portland Spurge, Burnet Rose, Blue Fleabane and Sheep's-bit in the dunes at Sandscale Haws N R, south Cumbria. NATS Arnside trip.

15th Mountain Male Fern on scree slopes, Kirkhope Burn ; and Alpine Bistort and Starry Saxifrage, Trow Grain, Upper Ettrick Valley, Selkirkshire.

18th The last Peacock Butterfly I saw this year, in my garden.

23rd A Small Tortoiseshell Butterfly above the Grey Mare's Tail Waterfall (450m above sea level) was the last Butterfly I saw this year. Not only was it late, but it was at quite a high altitude!

29th A Juniper Carpet Moth ssp *juniperata* in my garden moth trap, Ladhope, Galashiels: this species has spread since Juniper became widely planted in gardens.

30th A migrant moth, Dark Sword-grass, in my garden moth trap: this species comes from Spain or Africa.

NOVEMBER

2nd A Red Sword-grass in my garden moth trap, an uncommon species.

8th Withered leaves of Cloudberry on the plateau blanket bog at Coldcleuch Head, near Hawick.

13th Green Spleenwort, Hairy Rockcress and Limestone Bedstraw on a calcareous cliff on the Gameshope Burn at 360m above sea level. Five Whooper Swans on Gameshope Loch, high in the Southern Uplands, Peeblcshire.

14th A Kingfisher reported on the Tweed near Peebles.

20th A Barn Owl seen flashing by the windscreen whilst I was driving down the A7 near Stow.

24th A Nuthatch seen in my garden - the first time they have been seen here.

29th A flock of about 15 Yellowhammers, in the hedges at East End Farm, Bemersyde; and the uncommon plant Annual Knawel on a dry, heathy slope on Bemersyde Hill, below Scots View.

DECEMBER

2nd Parrot Waxcap fungi in the lawn at Monteviot House, near Jedburgh.

5th A Weasel seen crossing the road in car headlights, A7 near Stow.

9th A Nuthatch on the seed feeder in my garden.

CORRECTION Last Year's observation for 3rd September 2003 in *Border Naturalist's Diary* should have read '
'Ten Svensson's Copper Underwings.....'

BIRDS ON THE BACK GREEN

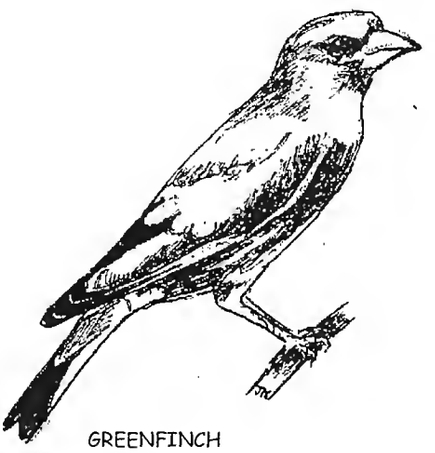
Jackie Muscott

Blackbirds have always been the most obvious birds on the back green, and I was pleased to see young ones again this year (2004) despite the many cats which seem to have materialised. Last autumn I got a lot of entertainment watching them eat Brambles. The stems would not bear their weight, so they were fluttering up, grabbing a ripe fruit, and settling back down on the grass to eat.

Late last summer I found an old peanut dispenser and decided to fill it to see what happened. The nuts were quickly found by both Blue Tits and Greenfinches, and I was soon filling the dispenser regularly. Later a small flock of Siskins joined in. I hadn't realised how small they were - about the same size as a Blue Tit, and just as belligerent. I soon had 2 peanut dispensers on the go. From time to time I also saw Coal Tits on the nuts, and once a Chaffinch, but it couldn't hang on for long, and had to content itself with the debris below, as did the mouse-like Dunnocks.

The Siskins were there from January to early March, when I counted 15 of them, just before they disappeared. Whether this was due to the cutting back of some of the trees and shrubs which gave them protection, or whether it was simply time to go, I don't know. The Tits and Greenfinches continued to feed for some time longer, but eventually the nuts were abandoned.

In August this year I noticed some Blue Tits flying about and put the nuts out again, and soon they and the Greenfinches were busy. I hope Siskins will come again, but with so much vegetation cut back there is less cover (though it looks a lot tidier), and we seem to have a lot more cats - so they may be too canny.



GREENFINCH

MALE SISKIN

JUST IN TIME FOR OAK APPLE DAY

Lyn Blades

On 27th May, while walking by the Tweed near Maxton, we came upon a large Oak. Its branches were hanging with strings of Red Currant Galls, caused by the Gall-wasp Neuroterys quercus-baccarum. On the same tree were a number of soft pinkish Galls which are caused by another Gall-wasp Biorhiza pallida. This was the first time I had seen Oak Apples. As children some of us mistakenly called Marble galls, the hard round malteser-like Galls, Oak Apples.

29th May, the anniversary of the Restoration in 1660, is Oak Apple Day. It was the tradition for country boys to wear a twig with a developing Oak Apple in commemoration of Charles II hiding in the branches of an Oak to escape Cromwell's troopers after the Battle of Worcester. Oak Apples were also thought to have prophetic qualities.

For more information on the complicated life-cycle of the Gall-causers, Journal 2000, Pages 20-21.

NEWS from the SCOTTISH SEABIRD CENTRE

Mary Tebble

During 2004, Phase One of the major enhancements in the Centre were completed using the further Millennium Commission funding. The entrance to the Discovery Centre was redesigned. New displays in the Discovery Centre include interactives on the seabird cliff face, a screen showing images from the underwater camera off the Isle of May, an 'Adopt a Gannet' display, better cameras (one on the viewing deck to watch shore birds), and slim plasma screens.

Phase Two, planned for 2005, is to develop a new wing connected by an underground tunnel to the Discovery Centre. The new wing will feature the marine environment, *Our Blue World* and *Future World*. Different funding allowed the cafe deck to be doubled in size, with space below, housing an office, a meeting room and storage. The kitchen area was enlarged.

Disappointment was felt when the St. Kilda project, which would have given a glimpse on camera of the island's rich wildlife and unique human history, had to be abandoned because of local concerns. Rediscover funding, therefore, was withdrawn; but plans for a similar project from the Galapagos are being discussed.

In 2004 the SSC hosted an exhibition of the beautiful wildlife paintings of Paul Bartley, a Fife-based artist. Later, the famous BBC *Wildlife Photographer of the Year* Exhibition was presented. The BBC *Wild Britain* programme with Simon King, featured the Gannets on the Bass Rock, as did Alan Titmarsh's *The British Isles - a Natural History*. The SSC helped with both programmes.

The 2004 Auld Kirk project, adjacent to the Centre, has converted the ancient porch into a small interpretation centre. ENHS members filled three cauldrons with herbs which witches might have used, because witches were burned on the Green. These cauldrons helped North Berwick to win the *Scotland in Bloom* competition. The SSC established *Jewels of the Forth* boat trips and ran the first modern ferry service crossing the Forth, which reopened the historic route used by pilgrims travelling to Earlsferry to visit the relics of St. Andrew.

A new bird-watching group was formed early in 2004. It is free of charge, friendly, shares telescopes, enthusiasm and knowledge. Everyone is welcome; just come along, warm, waterproofed and interested, to our Early Bird walks on the last Sunday of every month, or to our monthly Wednesday outings. We are a small group, but in October, 60 people came to watch 20,000 Pink-foot Geese touch down on Aberlady saltmarsh.

The crowning glory of the SSC year was winning the prestigious Queen's Award for Enterprise. Three SSC delegates went to Buckingham Palace to receive the Award from the Queen, and everyone involved - the board, staff and volunteers - received specially-minted commemorative medals presented by the Lord Lieutenant; a proud occasion.

VERATRUM NIGRUM - DARK-FLOWERED FALSE HELLEBORINE (*LILIACEAE*)

Margaret White

On the Pencaitland/Ormiston Outing in October, George McDougall showed us several specimens of an unfamiliar plant which was growing near the river in the corner of a field on the Winton Estate. This plant was later identified as *Veratrum nigrum*. It is a representative of the Southern European Flora and is very rare north of the Alps. It is listed in the *Book of Poisonous Plants*.

In *The Book of Chinese Medicinal Plants its uses are listed: Root, poisonous, emetic, evacuant, expectorant and vermifuge. Used in ointments for boils, bug bites and parasitic skin diseases.*

Veratrum nigrum appears in *Curtis's Botanical Magazine* of 1806:

This stately herbaceous plant is a native of Austria and perfectly hardy. Miller observes that it should be planted in an open situation, as, when near to walls or hedges, it is apt to be disfigured by snails; from whence he infers that it must be less acrid than the White Hellebore, which is rarely touched by them. Flowers in June and July. Is an old inhabitant of our gardens, being cultivated by John Gerard, in 1596. We received our specimen from Mr. Spon, Nurseryman, at Egham.

This was an exciting find.

EP

FLYING DUCKS, RABBITS AND SPIDERS

No, they are not animals !

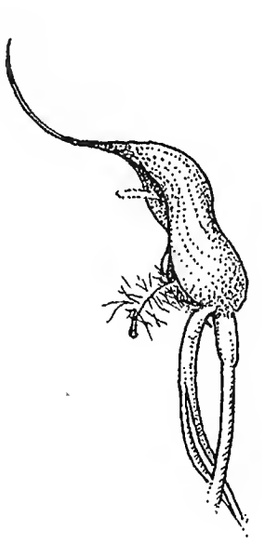
Lyn Blades

Australia has more than 900 species of Orchid, of which approximately half are epiphytes, which grow mainly on trees. In the south-west of Western Australia, no epiphytes have been found, but over 300 species and subspecies of terrestrial Orchids are recorded. Most are cross-pollinated by a variety of insects such as wasps, gnats, flies and bees, and some have developed bizarre techniques to attract their pollinators.

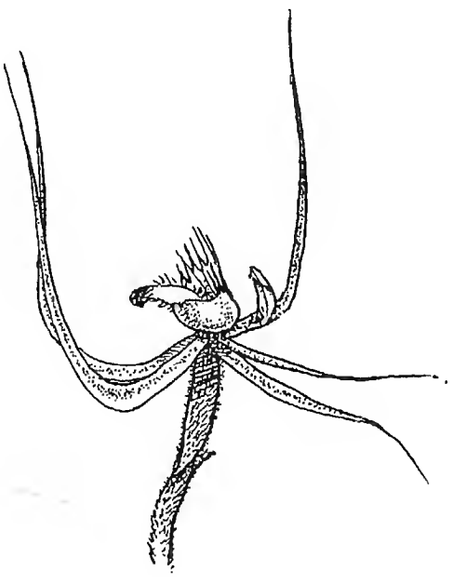
Although the flowers of some species such as the beautiful Sun Orchids, the *Lymitra* are relatively simple; others are very strangely-shaped, hence their descriptive common names.

Among the Orchids we found during our trip to Western Australia in September - October 2004 were: Dancing Spiders, Fringed Mantis, Cowslips, Pink Fairies, various Donkeys, Zebra, Rabbit, Flying Ducks. Bearded Birds, Snails, Leeks and several Hammers.

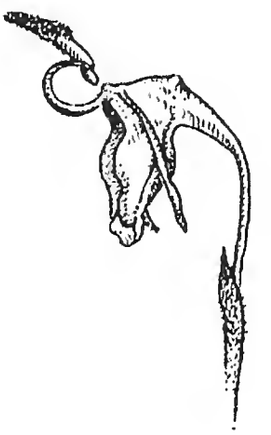
The illustrations will perhaps show why I find these flowers so fascinating:



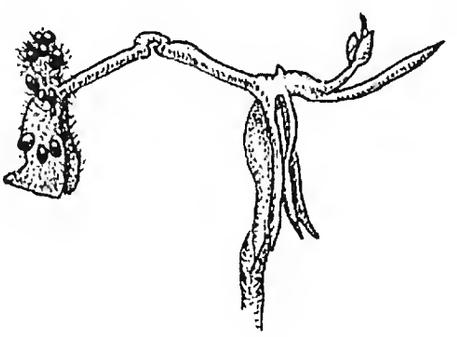
BEARDED BIRD ORCHID



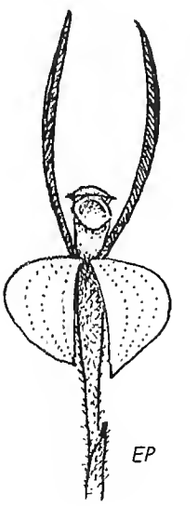
FRINGED MANTIS ORCHID



FLYING DUCK ORCHID



WARTY HAMMER ORCHID



RABBIT ORCHID

WILDLIFE GARDEN

Ian McCallum

Over the last 5 years I have seen the Sparrow population drop from 40 to 30 to 20 to 2. This year the population has recovered slightly, to about 6. The Starlings have also suffered a set-back!

There is always a silver lining to the cloud. There has been an increase in the numbers of Chaffinch, Goldfinch and Siskin. Another advantage of the decline in Sparrows is that when you sow or reseed a lawn, the area is not covered with Sparrows gobbling up the grass seed.

Most aspiring botanists tend to acquire plants to grow in their gardens. I was keen to acquire a specimen of Winter Heliotrope *Petasites fragrans*, and was given a plant by a Botanical Recorder who said 'keep it contained'. It was planted in a container, but when I was not paying attention, it escaped from the container and is now on the rampage.

I have other plants which are fairly rare, namely Masterwort *Peucedanum ostruthium*, Opposite-leaved Golden Saxifrage *Chrysosplenium oppositifolium*, and White Woodrush *Luzula luzuloides*. These plants are growing well and I would be happy to donate specimens to anyone for growing in their garden. The plants would have to be collected from my house.

The wildlife garden is a problem/decision area. Do you wage outright war on slugs - using beer traps of course; or do you sacrifice the odd Hosta to encourage the Hedgehog on his nightly sojourn?

Winter Heliotrope *Petasites fragrans*
.....on the rampage in Ian's garden

CRAIGIE HILL

Eunice Smith

I first made acquaintance with Craigie Hill when Mary Robertson led an Edinburgh Natural History Society outing there many years ago. Like several others on the outing, I was astonished that such a beautiful and diverse area sited so near to Edinburgh had gone unnoticed by so many of us. Craigie Hill is part of the Dalmeny estate (owned by the Rosebery family) and is situated to the south of the Queensferry Road. The most obvious route is probably best known as the road to the 'Pick Your Own' fruit farm at West Craigie.

On that first experience of the habitat I became aware not only of the lower level woodland walks, but also of the wonderful views which could be attained by ascending the hill. As well as a panoramic view eastward over Edinburgh, and along the Forth at the other end of the site, the view westwards encompasses the Forth Bridge and its younger elegant roadway, and north to Fife. The woodland area is rich in flora, and a quarry area sports a different range of plants. In those days it was possible to drive cars up a small side road and park beside a derelict farm complex. However more recent years have brought the nuisance of fly-tipping, and now road access to that area is prevented by an estate barrier.

Craigie Hill came to the attention of the Edinburgh Biodiversity Steering Group and was selected by Edinburgh Green Belt as suitable for a biodiversity conservation' project. Funding was attracted to clear some of the obstructed pathways, to make the woodland more accessible to a wider range of the public while still maintaining the natural ambience of the area. The problem of fly-tipping also had to be addressed. Provision was made at West Craigie Farm for visitors to the area to park their cars and enter the wood through a gap in the wall and along a well-defined path. Several members of Edinburgh Natural History Society added to the interest by contributing records of flora and fauna found there on past visits.

The project reached the first stage of completion in late autumn. On a chilly day in early December 2004, Lady Rosebery was invited to unveil the temporary interpretation displays as a symbolic opening of Craigie Hill to renewed public access. Several representatives of local groups, and others involved in the project were there, but the majority of those present were children from local schools. Lady Rosebery focused her address on the young people welcoming them warmly to explore the area and to give it a place in their memories. She recounted some of her own happy memories of traversing the hill and wood over many years.

RAINFALL IN CORSTORPHINE 2004

Munro Dunn

In terms of rainfall, 2004 had only one average month; 5 months had significantly more than normal, and 6 months significantly less. The excesses were, however, much greater than the deficits. The result was a total of 802mm, well above the long-term average of 694mm, but well below 2002's record 944mm; whereas 2003 had only 510mm.

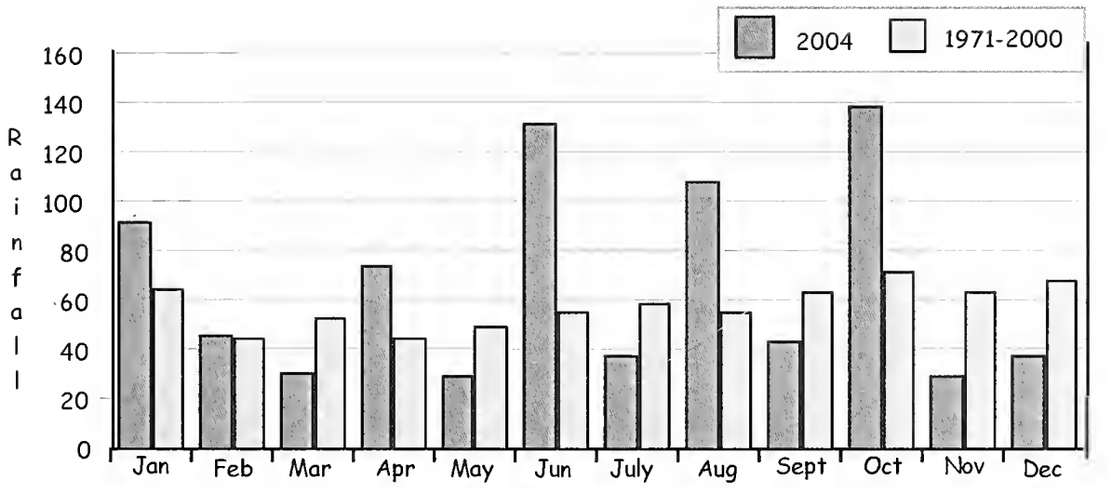
August and October had almost double their averages and June was well over double. On the other hand, November, with only 30mm, had only half its normal rainfall; March and May had similar totals; and December had only 38mm.

Not surprisingly, the number of days with significant rainfall, at 197, was also above average. The wettest month, October, owed its position to the frequency of falls rather than any exceptional individual falls. However, 2 particularly wet days, 23rd June, with 46mm, and 9th August, with 27mm, were major contributors to these months' high totals.

The longest run of days without significant rainfall was only 8, running from late November into early December.

COMPARISON of RAINFALL in 2004 with AVERAGE for 1971 - 2000 (Millimetres)

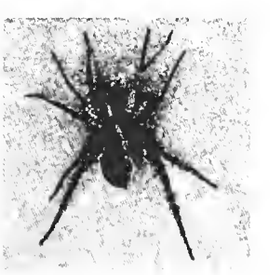
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
2004	92	46	31	74	30	132	38	108	44	139	30	38	802
1971 - 2000 Average	65	45	53	45	50	55	59	55	64	72	63	68	694



A SPIDER?

Jackie Muscott

15th May I took a photograph of a spider on stones by the Tweed at Bemersyde. On inspection it appeared to have rather more legs and bodies than required. What was it up to? Shedding its skin? Eating another spider? Mating? Jim Stewart was consulted, and came down in favour of the latter. Apparently the female is underneath, on her back,and the smaller male will be depositing sperm from one of his palps ('feelers'). Jim also gave a tentative name to the spiders - *Alopecosa pulverenta* (which means something like the 'foxy spider of dusty or sandy places').



HOW MANY LEGS ?

EXCURSIONS 2004

	DATE		PLACE	LEADER
January	17th	Saturday	Library and Walk	
February	21st		Baron's Haugh	Natalie Taylor
March	20th		Gartmorn	Niall Lobley
April	3rd		Barns Ness	Mary Tebble
	17th		Atholl Woods	Joanie Fairlie
	24th		Crichton Glen	Mary Robertson
May	1st		Aberfoyle	Ian McCallum
	8th		Burnmouth to Eyemouth	Lyn Blades
	15th		Hadfast Reserve(Birdsong)	Stan de Prato
	22nd		Roslin Glen	Neville Crowther
	26th	Wednesday	Duddingston Loch	Natalie Taylor
	29th	Saturday	Manor to Stobo	Eric & Eileen Perry
June	2nd	Wednesday	Mavisbank	Tom Delaney
			VISIT TO GALLOWAY Sunday 6th - Friday 11th June	
	16th	Wednesday	Blackford Glen	Margaret Perry
	19th	Saturday	Yellowcraig	David McAdam
	23rd	Wednesday	Cancelled	
	26th	Saturday	Southwood Pond/Wood	Grace Jamieson
	30th	Wednesday	Cammo	Stephan Helfer
July	3rd	Saturday	Cashel, L Lomond	Ranger
	7th	Wednesday	Craiglockhart	Janet Watson
	10th	Saturday	Gullane Old Rly/W Fenton	Margaret Watson
	14th	Wednesday	Canal at Ratho	Christine Rae
	17th	Saturday	Berwick	Michael Braithwaite
			In the footsteps of John Vaughan Thompson	
	21st	Wednesday	Dalry Park	Bob Savllle
	24th	Saturday	Schiehallion	Mary Clarkson
	28th	Wednesday	Kirkliston Old Rlwy /Pepper Wood	Roger Holme
	31st	Saturday	Otterston, Aberdour	Mary Clarkson & Lyn Blades
August	7th		E Pencaitland to Winton House	George McDougall
	14th		Botanic Gardens, St.Andrew am	Edith Cormack
			Tentsmulr (pm)	Mary Clarkson
	21st		Wooplaw Wood	Jeff Waddell
	28th		Plora Wood	Frances & Munro Dunn
September	4th		North Esk	Bill Baird
	11th		Wallace's Cave	John Watson
	18th		Arniston	Mike Richardson
	25th		Aberlady	Bill Clunie
October	2nd		Dalmeny	Neville Crowther
			VISIT TO ARNSIDE Friday 8th - Sunday 10th October	
	30th		North Berwick	David McAdam
November	27th		Vogrie	Molly Woolgar
December	27th		Peebles Circuit	Janet Watson

NATURAL HISTORY SOCIETY 2004

Aberfoyle 1st May led by Ian McCallum

Manor to Stobo 29th May

Lunch behind the dyke....

.... and afternoon tea at Kilcreggan

Oh I do wish those nice men would speak to me!

GALLOWAY JUNE 2004

Where do you think we are, Natalie??

Gosh food's good when you're hungry !

CREE VALLEY WALK on THURSDAY

And lovely shore walks

At WINTON HOUSE 7th August

Margaret and George

The Comma Butterfly to look out for

.... et al

Cinnabar Caterpillar

At TENTSMUIR in AUGUST ..... amidst Grass of Parnassus

Garden Tiger Caterpillar

.....changes into this lovely moth

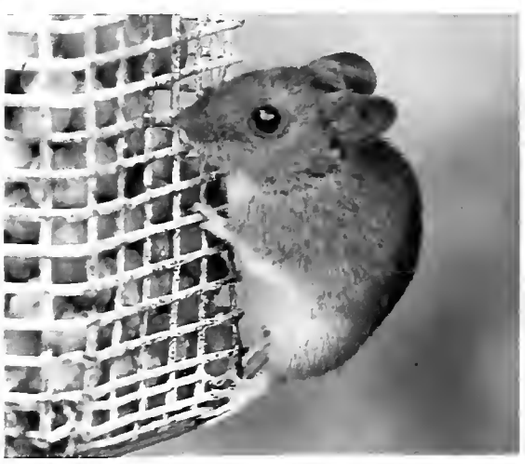
On top of ARNSIDE KNOTT 8th October

CANADA Queen Lady's Slipper Orchid
Cypripedium reginae

.... and

..... Ram's Head Lady's Slipper Orchid
Cypripedium arietinum

Is this really our President? In search of Rock Whitebeam seeds !
Yes, this is Natalie, in her role as Historic Scotland Ranger



Knopper Gall on Oak

A Chaffinch and a Field Mouse at Mary Robertson's birdtable - taken by her neighbour Alex Melrose

EXCURSIONS 2004

Excursions may be truly said to be the life of the botanist. They enable him to study the science practically, by examination of plants in their living state, and in their native locality; they impress upon the mind the structure and physiology lessons he has received; they exhibit to him the geographical range of the species, both as regards latitude and altitude; and with the pursuit of scientific knowledge, they combine that healthful and spirit-stirring recreation which tends materially to aid mental effort.

John Hutton Balfour Regius Professor of Botany University of Glasgow 1841 - 1845
Professor of Medicine and Botany University of Edinburgh; Keeper of RBGE 1845 - 1879

LIBRARY OPENING

Date 17th January

It was good to have the opportunity to browse among the books in the library, and we enjoyed coffee provided by the ladies of St Ninian's Church. Our thanks go to them and to Robin Marks, our Librarian.

BARON'S HAUGH

Date 21st February
Leader Natalie Taylor

This RSPB Reserve near Motherwell has a good mix of habitats within an area of over 100 hectares: woodland, meadow, parkland, open water and marshland, as well as part of the Clyde Walkway.

The day started grey, cold and pretty dismal, and the car park was frozen. Before going down to the hides, we went for a walk through the small wooded area on the hillside overlooking the haugh and the River Clyde. There was nothing out of the ordinary to see, but a good variety of wee birds - Blue, Coal and Great Tit, Wren, Robin, Dunnock, Greenfinch, Chaffinch; Blackbird, Jackdaw, Crow and Magpie; and a Great Spotted Woodpecker was heard drumming. We were not rewarded with Siskin we had hoped to see in the wood, but crossing the car park en route to the hides, a small flock suddenly appeared and displayed very well, doing their 'upside down' feeding thing.

Walking down the road, through the gate onto the Lime Walk, we arrived at the Marsh Hide. By this time the clouds were just breaking up and the sun was beginning to show itself and give us better light. There were plenty of ducks - Pochard, Shoveler, Wigeon, Teal, Mallard, and Goldeneye. None of my favourite here, the Pintail, but next favourite on my list, Gadwall, showed nicely. From here we also had Great Crested Grebe, Mute Swan and Coot, and a superb view of a Sparrowhawk posing on a tree branch in the sunshine, showing its markings beautifully. From a previous visit, I knew this to be a good spot for Water Rail, when I had seen them rushing around quite out in the open, gathering food for their young. But there was no sight nor sound this time round.

Here's one.....
.....A WATER RAIL

En route to the second hide, named the Causeway Hide, we were rewarded with good views of Fieldfare and Redwing feeding on the field alongside the path, and a Song Thrush. From the hide we saw the same ducks as before, plus Tufted Duck and Moorhen. Lesser and Greater Black-backed joined the Gull list of Common and Black-headed.

We continued on to the end of Lime Walk, stopping at the riverbank on the edge of Bobby's Wood. By this time, the clouds had cleared completely and the sun was blazing - well, as much as it could on a February day! On this stretch of the River Clyde there were Goldeneye (lots), Goosander, a stunning male Merganser and a pair of wee Dabchicks. Peewits flew overhead and Greenfinch were already reeling. A wee bit further along the riverbank, I had seen Kingfisher on this stretch on a previous visit, but that was in the early summer when they were feeding young. I still had my fingers crossed, knowing Kingfishers stay around all year.

At the third hide, the Phoenix, I was able to add a fifth Gull to my list - Herring Gull, and a Heron fishing in the marshland. All of a sudden there was a general squawk of 'Kingfisher' as a blue flash flew across the window of the hide. Of course I missed it, looking in the opposite direction as I was!

As can happen on a NATS outing, the group had split up a bit (why is no-one surprised?). The tail-end charlies caught up with the others as they were watching lots of Gadwall guddling about on a marshy stretch of water. Here we saw some lovely Goldcrest feeding on seed heads; heard a Buzzard mewing and then saw it flying over; then a Heron; and finally a small party of Long-tailed Tits and a Stonechat. Otters

are reported around this part of the Reserve, but we were not lucky enough to see them - too many people around, and of course the inevitable doggy walkers. The sun was low in the sky as we walked up Chestnut Walk, glimpsing the ducks on the haugh, onto White Walk with some lovely brilliant orange lichen and bright green moss growing on the wall, and back to the by now muddy car park.

Finally, a token gesture for the botanists and mycologists, but please excuse my ignorance of things without wings and feathers! The following were reported: Fungi - Scarlet Elf Cup *Sarcoscypha sp*, Velvet Shank *Flammulina velutipes* and Jew's Ear *Auricularia auricula-judae*. Plants - Italian Alder *Alnus cordata*, Butcher's Broom *Ruscus aculeatus*, Barren Strawberry *Potentilla sterilis* and a very early Celandine *Ranunculus ficaria* were in flower. Another excellent NATS winter excursion, ably led by Natalie; our thanks to her for leading the outing.

Joanie Fairlie

GARTMORN

Date	20th March
Leader	Niall Lobley

The outlook for the day was depressing, continuous rain and strong gusty winds buffeting the car on the approach drive. It was a relief that as many as seven members decided to come, and the day definitely looked up when we met Niall Lobley, the ranger. He was infectiously enthusiastic and surprisingly knowledgeable given that he was relatively new to the area, and was there on a temporary basis. Nevertheless he was very willing to lead the NATS, several of whom he knew from his time at Hopetoun.

As we moved anti-clockwise round the Loch, Niall talked about the history of the dam, built around 1713 to provide water power for the Earl of Mar's coal mines in the area. As we reached viewpoints on the loch and higher up in the Community Woodland area, the talk turned more towards the bird life. There were some ducks on the loch, though not in large numbers, mainly Tufted, Goldeneye and Mallard. Wigeon seemed to be lacking, though a few were seen on the earlier recce. A pair of Great Crested Grebe were present, but the day was hardly suitable for the elegant display behaviour which had also been observed on the recce. Pairs of Swans were preparing to nest and being very aggressive towards cygnets from last year's broods. The Ochils were obscured by cloud, but that area is home to a good variety of raptors: Buzzards, Sparrowhawks, Peregrine and an occasional Golden Eagle which visits the country park. Long-tailed Tits,

Skylarks and Lapwing were flying as we traversed the Community Woodland area. On the downward slope back towards the loch, there was a mass of healthy frog spawn in temporary puddles; Niall indicated that he would have it moved to an area that would not dry out. Oaks here were a surprise, in that they still retained a good coverage of dead leaves, and Jackie raised interest in the Marble Galls *Andricus kollari* and the evidence of Gall parasitisation.

The surprise of the day came when Niall led us along the lade or canal that had originally been constructed to bring water from the Black Devon, to flood the marsh which became the loch. The walk was along a path beside the canal, with conifers, mainly Western Hemlock *Tsuga heterophylla,* giving way to Birch as we approached the area where the canal runs high above the Black Devon. A Dipper was espied on the water . This is a beautiful area, which might repay exploration for fungi in the autumn, and it was here that, in a temporary dry spell, we enjoyed a spot of lunch. Niall, an admirer of Ray Mears (presenter of a TV programme on survival skills), in the meantime showed off his skills by making a Birch bark drinking cup and demonstrating its use. In that area, there were interesting Cherry Galls *Cynips quercusfolii* on dead Oak leaves.

As the walk along the north side of the loch back to the Park Centre began, Yellowhammers were singing in the hedge. Further on we paused to inspect the remains of the Sherrifyards Colliery and its railway. The area had many Birch trees with fungi - especially *Piptoporus betulinus, Fomes fomentarius* and *Trametes sp.* A sharp-eyed member found what appeared to be the rarer *Hapalopilus nidulans,* though none of our fungal experts was present to verify the finding.

The bird hide was hardly worth a visit on such a wet day. Plans are in train to change the nearby area to make it suitable for Wigeon, which have declined in numbers since conservation measures reduced the amount of low grassland around the dam.

A cup of tea at the Visitor Centre was welcome, and provided the opportunity to thank Niall for his considerable contribution to the outing.

Andrew Gilchrist

BARN'S NESS

Date	3th April
Leader	Mary Tebble

We met at the new car park at Whitesands, behind the Dunbar Cement Works, with the intention of exploring the coastline from there to Skateraw. This stretch is a Site of Special Scientific Interest because of its amazing geology. Apart from the geology, the Catcraig Limekilns are very interesting, not to mention the lighthouse and the many birds.

We were fortunate enough to have Betty Mitchelhill with us, who was able to explain what we were seeing and what to look for, but there are also explanatory

boards and it is obvious to anyone that it is very out-of-the-ordinary, owing to the fossils. The fossils are mainly corals, brachiopods and bivalves. Broken pieces of crinoids are very common and can be picked up, but it is hoped that not too many are removed, and of course hammering is not allowed.

The lowest rock layer to be seen is the Middle Longcraig Limestone, exposed on the foreshore at high water mark. This limestone contains masses of the coral *Lirhostration* and is in fact an ancient coral reef. Evenly-spaced basin-shaped hollows pit the surface of the limestone. These are the sites of trees which have now vanished, apart from roots seen here and there. The little cliff below the water line shows mudstone with rootlets (the soil in which the trees grew) overlain by a thin coal about 5 cm thick, which is the compressed carbonised remains of the trees. This in turn is overlain by calcareous mudstone with brachiopods (mostly *Eomarginifera*) and bivalves (mostly *Streblopteria*), representing marine conditions with a muddy sea floor.

The 6-metre thick Upper Longcraig Limestone which next follows, outcrops extensively across the foreshore and in the old quarries. The limestone indicates a return to clear water conditions, which allowed a rich fauna to flourish - of corals, brachiopods, crinoids and bivalves. Especially noteworthy is a bed of about 30 centimetres thick near the top of the limestone, crowded with the coral *Koninckophyllum*. In the rough state this rock does not look much, but it will take a beautiful polish to give the famous 'Dunbar Marble'. A polished slab may be seen in the old limekiln here. The limekilns have plaques explaining their workings. By 1793 limestone working was an established industry in the area, using the coal from the pits at Tranent, the lime was then shipped to Dunbar. These kilns went out of production in 1921, but others where the cement works are, were in operation until 1940.

There then followed a less interesting walk to Skateraw, but for those who did it and walked up the Dryburn, the reward was well worth it. On the bank was the largest mass of Sweet Violets *Viola odorata* any of us had ever seen. A fitting end to a most interesting day.

Janet Watson

SWEET VIOLETS
Viola odorata

ATHOLL WOODS

Date 17th April
Leader Joanie Fairlie

We set off through Atholl Woods on a beautiful spring morning. The birds were singing their hearts out and we started the day with fabulous views of Goldcrest just beside the path, singing and calling all the time.

Natalie called 'eagle' and we all stopped dead in our tracks, eyes skyward. Was it really an eagle? Well, no, was the decision. It was an Osprey and it flew closer and almost overhead, just to be sure we saw it. It was closely followed by .....a Peregrine, .then ..... three Buzzards, Pa, Ma and wain!

That was just for starters! Five Swallows followed, the first of the year; then Green Woodpecker, Siskin, Willow Warbler, ... the list went on and on. I don't know how Joanie managed to book them all to appear on the same day!

Then the rain came on in earnest. We made for the shelter of the boat shed for lunch. We walked on, mostly in the rain, and arrived back at the cars drookit.

The very keen NATS went on to Loch of the Lowes, where they saw fabulous Brambling, and a Jay sitting on a branch watching them. The rest of us made for the tea room in Dunkeld. An excellent day.

CRICHTON GLEN

Date 24th April
Leader Mary Robertson

Fourteen NATS enjoyed a lovely spring day at Crichton Glen, a steep-sided, U-shaped valley of the upper reaches of the Tyne Water. As it has not been drained nor the grassland 'improved' for agriculture, it supports a wide range of habitats. From Crichton Collegiate Church car park we walked on the top edge of the valley to Crichton Castle, built in the late fourteenth century by John de Crichton. While we were exploring the castle, the warden kindly pointed out the site of a Barn Owl's nest high in the wall, at the foot of which we collected the contents of the Owl pellets, mostly Field Vole skulls and bones. Liverworts and Hart's Tongue Ferns were noted on the sides of the deep well in the famous courtyard.

We then followed the steep, rough path downwards through a scrubby area which was white with Blackthorn blossom. Lower down were Primroses, Violets, Barren Strawberry and Wood Sorrel. Later on this area will be covered with Bracken; its emerging fronds were thick on the ground. We had an excellent view of the broad valley below and the Alder Wood on either side of the Tyne Water.

We crossed a marshy area to Birky Bank Wood where we settled for lunch under an old Oak tree. Here is one of the best examples of natural woodland in Midlothian, containing Ash, Birch, Oak, Hazel, Hawthorn, Holly and Honeysuckle. The Elms have gone; one fallen trunk was covered in *Ganoderma* Bracket fungus.

The Glen is rich in wildlife; Chiffchaff, Willow Warbler and Blackcap were heard, as well as resident Thrush, Blackbird, Chaffinch, Wren, Starling, Dunnock, Goldfinch, Blue Tit and Great Tit. Jean Long saw one Long-tailed Tit, and in the big trees were lots of noisy Jackdaws. A (dead) Pigmy Shrew was found on the path.

A Pygmy Shrew (alive!)

After lunch we crossed the valley to the Tyne Water. To the South was a scrubby slope, yellow with Gorse in flower. We then examined the marsh which is considered the largest one remaining in Midlothian. It has characteristic marshland flora, most of which would become apparent later in the season. We found Wood Sorrel, the first of the Wood Anemones, and Mary Clarkson spotted a bit of Town Hall Clock or Moschatel, close to the water.

There were Flag Iris, lots of Kingcups, Celandine and Greater Stitchwort. Leaves of Valerian, Meadowsweet and Greater Tussock Sedge were seen. Willow species, Birch, Hawthorn and Wych Elm, some smothered in Ivy, were amongst the Alders.

We disturbed a Great Spotted Woodpecker. Overhead a Buzzard mewed in protest, being mobbed by a Crow. Mary Tebble heard a brief burst of song from a Sedge Warbler; and Jean Long showed us an Eel in the water, and Caddis Fly larvae under stones. From the marsh we scrambled up the steep slope to the car park, the only bit none of us enjoyed! My special thanks to Janet Watson who helped so much to make the excursion a success.

Mary Robertson

ABERFOYLE CIRCUIT

Date 1st May
Leader Ian McCallum

This is an account of a combined outing of the Glasgow Natural History Society and the Edinburgh Natural History Society to the Aberfoyle area. As part of the Loch Lomond and Trossachs National Park celebration year it was decided to have some of the Society's outings within the National Park.

The members met at 11.00 hrs at the Woollen Mill in Aberfoyle, where sustenance was available. Outside the Mill there was a display of birds of prey and a collection of sheep including a magnificent 4-horned ram. The party, which comprised 9 Edinburgh and 5 Glasgow members, was given a short description of the excursion before setting off. Thanks were given to Sandra Stewart and Kathleen Rowdon for agreeing to make lists of botanical species. The route followed the Glasgow to Aberfoyle disused railway line to Cobleland, returning to Aberfoyle on the other side of the River Forth via Robert Kirk's church.

The sun was shining and bird song was much in evidence. Swallows, House Martin, Willow Warbler, Robin, Chaffinch, Greenfinch, Blackcap, Stonechat and Jay were seen or heard. Some of the best views were on the river, where we had good sightings of Dipper and Goosander.

Along the banks of the River Forth were animal tracks and the leader illustrated a method of recording tracks using overhead projector film and drawing the tracks on the overlay. On the path the party found the Maze-gill Fungus *Daedalea quercina* on Oak and further on a Song Thrush's anvil surrounded with the broken shells of its last meal.

Spring flowers were everywhere. Areas of mature woodland were carpeted with Wood Sorrel *Oxalis acetosella*, Wood Anemone *Anemone nemorosa* and Wild Hyacinth *Hyacinthoides non-scripta*. Alongside the track was a succession of flowers including Three-veined Sandwort *Moehringia trinervia*, Germander Speedwell *Veronica chamaedrys* and Golden Saxifrage *Chrysosplenium oppositifolium*.

A short talk was given describing the geology of the area. The Highland Boundary Fault runs from Stonehaven in the east to Arran and beyond in the west. It runs through Aberfoyle, and at Dounans quarry a wedge of limestone has been exploited. This limestone has fossils of trilobites, brachiopods and ostracods, which date the rocks to Ordovician Period, 475 million years ago (Ma). These fossils, together with fossils found in the Bofrichlie Burn, are the same as North American fossils, which prove that the Highlands were connected to North America. At that time there was no Atlantic Ocean, no North Sea and an Ocean called Iapetus separated Scotland from England and Wales. The Iapetus Ocean closed by the end of the Silurian Period (405 Ma) when Scotland and England were joined due to Tectonic Plate movements.

South of the fault are Old Red Sandstone of Devonian period (400 Ma) conglomerates, formed by large rivers flowing from the North and the South. The red colour is due to the oxidisation of iron, which presumably took place during periods of high temperature. To the north of the fault lie the older Highland rocks. During the Ice Ages that followed, the action of the ice sheets had a major effect on the scenery. The ice stripped the rocks and soil from the hills and when the ice melted, dumped the morainic material in the valleys.

Butterflies were also abundant – mostly Orange Tip, Peacock, Small Tortoiseshell and Green-veined White. On the bridge over the Forth there were the ferns Wall-

rue *Asplenium ruta-muraria* and Common Maidenhair Spleenwort *Asplenium trichomanes.*
After walking through the caravan park the group had lunch on the banks of the Forth. The sun shone warmly and after lunch the party reluctantly moved off but only after a Common Sandpiper had been watched and a Longhorn type of Wood Beetle had been closely examined.

The members continued following the Forth upstream past banks of Primroses *Primula vulgaris*, sweet smelling Balsam Poplars *Populus trichocarpa*, Geans *Prunus avium* and stopped at a fine example of a Douglas Fir *Pseudotsuga menzeisii*, where the diagnostic features were described – the citrus smell of the crushed foliage and the three-pronged bracts that resemble a trapped mouse under the cone scales.

Before moving onto the last stop at Aberfoyle Auld Kirk, the party visited the top of Doon Hill where messages to the fairies were read. At the Kirk mortsafes were examined and Robert Kirk's grave inspected. Robert Kirk was the fairy pastor who translated the psalms into Gaelic and wrote The Secret Commonwealth, which dealt with the second sight and the fairies. The question was, did Robert Kirk lie under the gravestone, or was he still in the world of the fairies.

In the car park there was an interesting information board on the Bailie Nicol Jarvie of Rob Roy fame and his poker still hangs from the tree. The parties returned to their transport about 16.15 hrs. Most then disappeared into the Woollen Mill for a rejuvenating cup of tea prior to heading home.

Ian McCallum

BURNMOUTH TO EYEMOUTH

Date 8th May
Leader Lyn Blades

What with a dull morning in Edinburgh and heavy rain as we drove down the A1, it was not the most promising start to the day. Amazingly we reached Burnmouth to find that it was dry, and not unpleasant weather for walking.

We set off to follow the Coastal Path to Eyemouth, stopping first in the field just behind the village school. Here there were numerous plants of Borage *Borago officinalis.* Most were somewhat stunted and many were grey with mildew, but they were covered in flowers and made quite a show. Two years ago the plant had been grown as a crop, but had not proved a success here. Lack of sun was the problem, according to a local dog-walker. The oil from Borage seeds contains gamma-lineolic acid (GLA), a valuable medicinal substance, and given a good summer, Borage grows well in Scotland. GLA is also found in Evening Primrose, which is not a successful crop in UK. Among the field weeds were a selection of Speedwells: Common Field *Veronica persica*, Thyme-leaved *V. serpyllifolia,* and Wall *V. arvensis*; two Forget-me-nots: Field *Myosotis arvensis* and Changing *M. discolor;* and yet another blue flower, Bugloss *Anchusa arvensis.* The little Field Pansies *Viola arvensis* were abundant and formed an attractive carpet among the Borage.

The sound of Skylarks singing accompanied us on our way. There were a few House Martins flitting around; Guillemots and Razorbills swimming in the sea; and Gannets flying and Fulmers gliding overhead. Field Mouse-ear *Cerastium arvense* was found on a bank, with masses of Greater Stitchwort *Stellaria holostea* among the long grass. Soon we came to clumps of Cowslips *Primula veris* (rather past their best), and plants of the hybrid (with Primrose), the False Oxlips *P. x polyantha.* On the cliffs were patches of pink and white - Thrift *Armeria maritima,* Sea Campion *Silene uniflora*, Scurvy Grass *Cochlearia officinalis* and the lovely white Meadow Saxifrage *Saxifraga granulata.*

One of the highlights was the discovery of Early Purple Orchids *Orchis mascula* in lovely condition. The first ten were seen only by Jackie, who ventured down the bank (cliff!) on the wrong side of the fence; then a dozen or so were found in a much more accessible place, just above our lunch spot. Early Purple is one of the commonest Orchids in UK terms, but rare in the Lothians, and coastal in Berwickshire. It is one of the first to flower. It prefers rich soils and is often found on grassy coastal banks. Did anyone smell the tom cats? !

Having moved fairly quickly (for the NATS!) we reached our planned lunch stop on time. In a sheltered bay the path follows a grassy shelf below field level. Here we sat, looking out to sea, among the Cowslips which were still in good flower.

Climbing back up to the higher path we could now look down on Eyemouth. Vetches were coming into flower: small plants of Common Vetch *Vicia sativa*, Bush Vetch *V. sepium,* Birdsfoot Trefoil *Lotus corniculatus* and Kidney Vetch *Anthyllis vulneraria.* At the beginning of the walk we had seen carpets of little Field Pansies; we now found patches of the larger Heartsease *Viola tricolor,* some yellow, some purple. There were also Violets, mostly Common Dog *V. riviniana,* with a few Heath Dog *V. canina.*

As we neared the end of the coastal path we were rewarded by the sight of banks of Primroses *Primula vulgaris* below the cliffs. Then, unfortunately the rain came! A thick, wetting drizzle sent us hurrying on our way to Eyemouth, where we arrived dripping wet at the coffee shop. Even Andrew, who had been doing stalwort work in ferrying drivers back to Burnmouth, found time for a cuppa.

Lyn Blades

HADFAST VALLEY

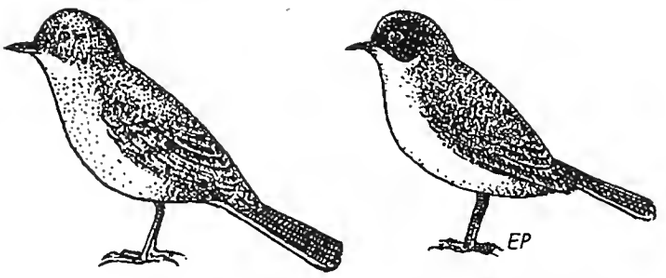
Date 15th May
Leader Stan da Prato

Betty Smith and Lesley Fairweather put their heads together to think of somewhere local where birdsong would be paramount, and came up with the SWT Reserve - Hadfast Valley. Betty's idea of Stan da Prato as leader was ideal as Stan has worked, recorded and ringed Warblers in this reserve since the seventies, and when approached, he was delighted to share his knowledge with the members of the Natural History Society.

Hadfast Valley in Midlothian is 5 kilometres from Dalkeith and approximately 1 km from the village of Cousland. It consists of a large area of ungrazed scrub made up of Hawthorn, Gorse, Bramble, Elder and Broom, giving an ideal habitat for breeding songbirds. It is looked after by Sheena Irving, the convenor, plus volunteers, and she welcomed the 18-strong group before handing us over to Stan, who, having completed a common bird census that morning, knew exactly what was singing and in which area we could be confident of finding them. Before leaving the tiny car park we heard a Common Whitethroat, with its fairly scratchy song and a Willow Warbler, with its cascading melody of descending notes.

The path took a figure of eight pattern through the scrub, and Blackcap and Chiffchaff seemed to be never far away, but as with most Warblers, easier to hear than see. The metronome swing of the Chiffchaff was easy for everyone to identify, but the Blackcap was more difficult, being similar to the Garden Warbler. However the Garden Warbler remained quiet, as did the Lesser Whitethroat, even though both are heard at Hadfast. Most of those present mastered the fluty song of the Blackcap, with the west of Scotland accent on the last four notes.

Returning to the Railway walk close to Hadfast, a low-lying wet area rewarded the group with a clear sighting of a Sedge Warbler in full flow. It was easy to identify, as its song is full of chrrs, whistles and harsh notes in rapid succession and varying volume. Along 'a bit further' (this phrase got us miles along the track, and for many, further from their lunch) under a pylon a Grasshopper Warbler was heard. Unfortunately, the sound was distant and short, but a definite fishing reel sound was heard by a lucky few. Next came a superb sighting of a Lesser Whitethroat on a dead branch at the top of a Hawthorn bush. It sang long enough to enthral the group, then was off. Seemingly unattached males display more at the start of the season, and most stop singing after two or three weeks, so it was indeed a piece of luck to see and hear this shy Warbler. Prior to this, a Garden Warbler had given a partial song, though others had heard a stronger version where the speed and loudness of the song had clearly distinguished it from the Blackcap.



COMMON WHITETHROAT LESSER WHITETHROAT

Some might say - what luck, to see all eight Warblers on one day - but the fact that the leader was experienced both with the birds and the area meant that the chance of successful sightings was increased greatly.

Lesley Fairweather

ROSLIN GLEN

Date 22nd May
Leader Neville Crowther

This area is so peppered with designations that it could compete with a Mexican general's chest for honours. Our excursion concentrated on the country park on the west side of the North Esk, opposite the well visited SWT Reserve and SSSI. The whole is an Area of Great Landscape Value and is overlooked by two Scheduled Ancient Monuments which stand above the glen. Roslin Castle, built in 1420, totters precariously on the rock at the centre of the incised meander, and Roslin Chapel which was started in 1446 by Sir William St. Clair, overlooks the glen to the north. The altars of the chapel were destroyed by zealots in 1592 as part of the Reformation. Further damage was wreaked by the rain of centuries, necessitating the erection of the present shelter designed to allow the sandstone structure to dry out.

At the country park car park by the old carpet factory around 20 members and friends gathered. Nearby we discovered Parson-in-the-Pulpit *Arum maculatum* and inevitably a few aliens: Few-flowered Leek *Allium paradoxum,* Dame's Violet *Hesperis matronalis* and Jacob's Ladder *Polemonium caeruleum.* The Few-flowered Leek inspected is very invasive and the writer suspects that it threatens the native Ransoms *Allium ursinum.* Later we were to see other 'foreigners': Fringe Cups *Tellima grandiflora,* Pick-a-back Plant *Tolmeia menziesii* and the Pink Purslane, *Claytonia sibirica.* We crossed the footbridge and pushed through the tall ruderal vegetation in the old castle gardens. Nettle Weevils *Phyllobius pomaceus,* alighted on our clothing like small green jewels, and Orangetips and Green-veined Whites danced among the stands of Jack-by-the-Hedge *Alliaria petiolata* along the riverbank. Early Peacocks were also abroad, and one specimen of the commonest of the Longhorn Beetles *Rhagium bifasciatum* was found at this spot too. The Docken leaves were fretted into filigree patterns by the attentions of dozens of black grubs of the Green Dock Beetle *Gastrophysa viridula.*

The meadow below the chapel, now filling with encroaching scrub, resounded to the bubbling song of Blackcaps and, difficult to separate, a Garden Warbler. This is a well known site for Meadow Saxifrage *Saxifraga granulata* and Dutch Rush *Equisetum hymale*, now both depleted in numbers. Just beyond, inside the ancient woodland, an extensive stand of Great Horsetail *Equisetum telmateia* dominated the field layer, and all three of the expected woodland

Sedges *Carex pendula, sylvatica* and *remota* were in evidence. As we descended into the gorge a Green Woodpecker yaffled in the giant Beeches across the river. The more common Great Spotted Woodpecker was heard drumming on several occasions. We were constantly but happily delayed by finding many species of some rarity in Midlothian, such as Wood Stitchwort *Stellaria nemorum,* Guelder Rose *Viburnum opulus,* Cow-wheat *Melampyrum pratense* and the woodland grasses, Wood Millet *Milium effusum,* Wood Melick *Melica uniflora,* and Wood Poa *Poa nemoralis. (To distinguish between these grasses see Eric's drawing on page 58)*

Having climbed back to the plateau opposite Wallace's Cave we entered the Yew grove, dating from the monastic period. The Cistercians were the wealthiest order in medieval times, sheep and wool usually the source of their riches, but in Midlothian it was coal! The chapel and Newbattle Abbey were expressions of this wealth. Before returning to the car park for lunch we had found a further site for Meadow Saxifrage with several hundred plants, and the unusual Bistort *Polygonum bistorta*. There were also three locations, appropriately around the chapel, of the striking Star of Bethlehem *Ornithogalum umbellatum*.

We walked south in the afternoon, sighting Purple Toothwort *Lathraea purpurea*, a Solomon's Seal *Polygonatum x hybridum*, and more Giant Horsetail. We continued into the area of the country park which at one time housed the gunpowder works. Pendulous Sedge *Carex pendula* and Hart's Tongue Fern *Phyllitis scolopendrium* decorated the 'blast recesses' in the steep hillside where once the powder was stored prior to shipment. The rookery above was in full voice, and there were almost a hundred pairs and their well feathered young milling around in the canopy. Sadly the single Wellingtonia *Sequoia gigantea* beside the factory foundations is now dead. Masses of Pyrenean Valerian *Valeriana pyrenaica* now choke the old lades. However, despite being roofless and with its wheel missing, the undershot water mill is in good repair. The dam and sluices have recently been given a facelift. Those interested in the history of the gunpowder factory, which only closed in the fifties, should consult Winnie Stephenson's Millenium project, a CD entitled *Roslin Gunpowder Mills*.

The walk continued up onto the Penicuik-Bonnyrigg Railway Walk, past the old Rosslyn (sic) Castle station into the SWT Reserve, and eventually downhill back to the carpark. The weather was fine throughout an enjoyable day and there were many who surprised themselves by their mobility on the rugged terrain.

Neville Crowther

DUDDINGSTON LOCH

Date 26th May
Leader Natalie Taylor

On a fine but chilly evening there was a good turnout for Natalie's outing. The starting point was Duddingston Loch itself, where the geese and the ducks which were present in considerable numbers were viewed and their infants admired. Further out on the loch, Great Crested Grebe and their young were observed and on the other side of the loch, Herons were plentiful. From there the party made its way along the road westwards. En route there were stops to admire the 'spectaculars' of the evening - Sticky Catchfly *Lychnis viscaria* in full colourful bloom on the rocks and, lower down, Forked Spleenwort *Asplenium septentrionale.*

The Wells o' Wearie were reached via the track which passes by the tunnel on the Innocent Railway, and there were a pair of Mute Swans. The 'wells', actually small lochans, were used in the past by housewives from the nearby villages for washing clothes. A steep climb on a path of doubtful provenance took us back to the road near where the Sticky Catchfly was still an attraction, and then quickly back to the cars parked near the loch.

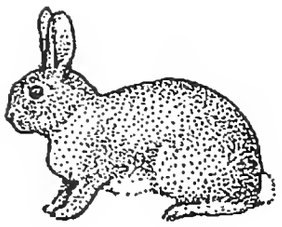
Andrew Gilchrist

MANOR TO STOBO

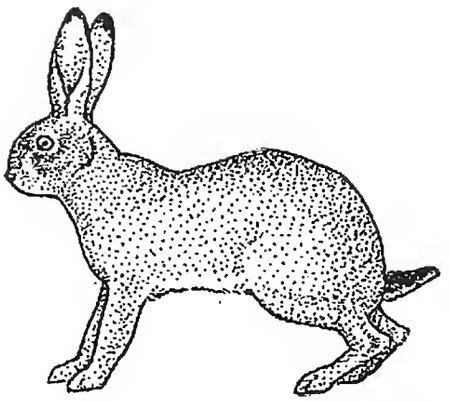
Date 29th May
Leaders Eric and Eileen Perry

The route followed part of the John Buchan Way, named after the celebrated writer and diplomat. The waymarked path from Peebles to Broughton was opened in Spring of 2003, and was immediately explored by our two local members, with a view to a future excursion. We gathered at the Manor Kirk and dallied by the grave of the Black Dwarf, which lies beneath a Rowan tree planted there at the request of this local 19th century character. Initially the route took us along the valley of the Manor Water. Dippers were spotted along the river. Flowering in the hedgerows were typical Red and White Deadnettle *Lamium purpureum* and *L. album*, Crosswort *Cruciata laevipes*, Herb Bennet *Geum urbanum* and masses of Hawthorn blossom *Cretaegus monogyna,* which permeated the air with its perfume.

We then walked uphill onto the less verdant terrain of moorland. Although at first glance the scene was lacking in much of wildlife interest, the combined efforts of twenty pairs of eyes detected a surprising variety of forms. The sedges attracted much attention. They included Common Sedge *Carex nigra,* Glaucous Sedge *C. flacca,* Carnation Sedge *C. panicea,* and Spring Sedge *C. caryophyllea.*



This is a Rabbit .....



.....and this is a Hare

In the boggy places were Bog Stitchwort *Stellaria uliginosa*, Cuckoo Flower *Cardamine pratensis,* Blinks *Montia fontana* and Marsh Arrowgrass *Triglochin palustre.* Scrutiny of the sparse, dry moorland revealed a colourful variety of yellow Tormentil *Potentilla erecta*, patches of Lousewort *Pedicularis sylvatica* and masses of the small blue and white flowers of Milkwort *Polygala sp.* One could quite believe the old tale related by George that Milkwort's common name was derived from the plant's property to induce lactation in cattle. Of particular note was the Changing Forget-me-not *Myosotis discolor* with its white-to-blue inflorescence.

At the highest point of the walk, a convenient wall provided a back rest for picnicking, and time to turn our eyes skywards. Most remarkable were two large flocks of Lapwings which circled around for quite some time. A skein of eight or nine Greylag Geese flew past, and one Snipe was sighted. Also seen during the course of the day were two Buzzards, one Kestrel and two Goldfinches. Meadow Pipits making their characteristic dive into the heather were a common sight. On the way downward we halted for a while to determine whether those furry creatures in the distance were rabbits or hares. We were fortunate to find both species, the former distinguished by the white tail scut and the latter by the black tips on their long ears.

To complete the day we were entertained to the now traditional 'Tea on the Lawn' at Kilcreggan by our leaders, whilst over the wall the Royal Company of Archers, in green uniform and feathered glengarry, were holding their annual archery competition. Our thanks are due to Eric and Eileen for providing a varied programme and ensuring that the forecasted rain did not materialise.

Margaret Perry

MAVISBANK

Date	2nd June
Leader	Tom Delaney

See article from Tom on Page 24

BLACKFORD GLEN

Date	16th June
Leader	Margaret Perry

We gathered at Midmar Paddock in overcast weather for the evening excursion. The future of the Paddock, extending from the northern edge of the Hermitage of Braid down to Blackford Pond, is uncertain. Major efforts are being made to have this site designated as a local Nature Reserve, in keeping with the adjoining Reserves. We wish the campaigners every success.

Cattle were presently grazing in the lush pasture of the Paddock. This was covered with a host of Meadow Buttercups *Ranunculus acris*; Bulbous Buttercups *R. bulbosus* had been plentiful here at the beginning of the month but had mostly died back. The more common Creeping Buttercups *R. repens* were growing further along our path. Also in the meadow were many plants of Pignut *Conopodium majus* and Lesser Stitchwort *Stellaria graminea.* Some Stitchwort flowers were infested with the fungus Violet Anther Smut *Ustilago violacea*, causing the yellow anthers to blacken. (See ENHS Journal 2003, page 14).

Turning right onto the path leading down to the Braid Burn, we passed through an area of mixed broadleaved woodland. In the Glen, various roses were in bloom alongside the path. Together with the white and red blossom of the Hawthorns *Cretaegus monogyna* these made a colourful picture. A profusion of flowers covered the many Elders *Sambucus nigra* on the opposite hillside. Yellow trumpets of Monkey Flower *Mimulus agg.* brightened the banks of the burn, where we were pleased to see that the abundant fronds of the Stream Water Crowfoot *Ranunculus penicillatus ssp pseudofluitans* were in flower. In the gloomy conditions it was difficult to discern the closed-up flowers of the Hedgerow Cranesbill *Geranium pyrenaicum* beside the path at the eastern end of the Glen, and the tiny specimens of Dovesfoot Cranesbill *G. molle* scattered in the bare ground of the quarry. Other finds included Hairy Rockcress *Arabis hirsuta*, Lamb's Lettuce or Cornsalad *Valerianella locusta* and a wasp's nest high in a tree. The onset of rain drove us hastily back to the car park after a pleasant evening's stroll.

Margaret Perry

YELLOWCRAIG

Date 19th June
Leader David McAdam

It was a far from promising morning for this geological outing so it was encouraging that we had a party of ten to benefit from David's cogent explanations of the surrounding geology. He is an outstanding expert on the geology of the area, and an excellent communicator and illustrator of the development of the landscape.

The features of the land have been created by the action of volcanic forces, and the first site of interest was Yellowcraig itself, the basalt remnant (solidified magma) of a volcanic 'pipe' or 'vent'; surrounding it are agglomerate accretions of broken rock ejected from the pipe at the same time as the hot magma. Towards the coast, the first features to be encountered were geological 'sills' formed from magma which had been forced laterally through softer sedimentary rock, which being softer, has subsequently been eroded away; Fidra and Longskelly Point were formed in this way.

Walking westwards, we encountered successively younger lava flows, originating from volcanic vents in the Garleton Hills or from Yellowcraig itself, which were subsequently tilted by further volcanic action. Hard Markle Basalt with calcite crystals gave way to the more fissile Mugearite, and, near Marine Villa, a layer of trachytic tuff created by the volcanic dust and debris thrown into the air by the volcanoes was seen clearly above the Mugearite. Just before the Villa, there is a bay filled with grey pebbles of varying sizes which clearly did not come from the lava flows. David believes that they originate from the very hard basalt of the Fidra sill.

An explanatory note covering the various features seen during the day was provided by the leader. A copy is available in the Society library. David was thanked for a splendid outing which was obviously greatly appreciated by members, despite the sometimes inclement weather conditions.

Andrew Gilchrist

SOUTHWOOD POND AND WOOD

Date 26th June
Leader Grace Jamieson

Southwood Pond was created six years ago by Mike Mosson who told us that, after retiring from his job as personnel manager for the Royal Bank of Scotland, a whim took him as he was walking his dogs on his land which comprises thirty-two acres in the countryside near Gladsmuir. He wondered if he could make a pond in the permanently wet meadow. He said 'There was a natural hollow between my native woodland and a neighbour's woods'. He thought that a pond might create a wildlife corridor between the two woods. Sixteen feet of clay lay beneath the topsoil, so making a pond would not be difficult. He would enjoy sitting with his grandchildren to watch the wildlife on and around the water.

That was in 1998. Since then the 'pond' has become a small loch about a hectare in area, with two small islands. Mike had no specialist knowledge, but he had been a chemistry student and an academic, so he knew how to research his idea thoroughly. He obtained planning permission and had help and approval, and a substantial grant from Scottish Natural Heritage. Then he employed several local firms to help design, dig out and plant the pond. Because of the deep clay, no lining of plastic or cement was needed for the pond. Bulldozers were used to remove the topsoil and make a big dam with some of the clay. The deepest part of the pond was to be fifteen feet, with shelving at one end, to form a marshy area suitable for varied wildlife. The topsoil was put back on the islands. Then Mike just waited for the hollow to fill up with water. It did, thanks to the water that drains into it from the nearby tree nursery, which waters about fourteen million seedlings every day.

Plants were put around the loch by May 1998. That year several broods of Mallard were reared. A pair of Oystercatchers came, and later Tufted Ducks, Moorhens, Coots and a pair of Swans bred. We saw all these, and their young, as we walked around the loch. Mike told us that a pair of Otters had visited - not good for the fish - and Buzzards and Kestrels fly over. He gave us a list of seventy-six bird species that he has recorded on and nearby the pond and in his wood. We saw a Brown Hare loping across, and a Roe Deer grazing on his land.

The plants placed around the pond thrived and spread. We were delighted to see the unusual flower of Sweet Flag *Acorus calamus* and the buds of Purple Loosestrife *Lythrum salicaria*. We saw leaves of Bogbean *Menyanthes trifoliata* and Marsh Marigold *Caltha palustris*. Yellow Flag *Iris pseudocorus*, Marsh Cinquefoil *Potentilla palustris* and Brooklime *Veronica beccabunga* flowered on the edges, and Branched Bur-reed *Sparganium erectum* and Ragged Robin *Lychnis flos-cuculi* were there too. There were leaves of Arrowhead *Sagittaria sagittifolia* which is spreading too much. Greater Spearwort *Ranunculus lingua* and an unusual Pendulous Sedge *Carex pseudocyperus* attracted our notice.

Common Blue Damselflies hovered over the reedbed, and Meadow Brown and Ringlet Butterflies landed on the flowers. We heard Willow Warblers and Sedge Warblers.

Mary Tebble

Neville Crowther describes the rest of our excursion:

..... Shortly after midday the rain which had threatened all morning began. We made our way to the relative shelter of the woodland, which kept us drier for a while. From our observations, it appears to be a

plantation of about 100 years in age, mainly of Pedunculate Oak *Quercus robor*, but with some much older ones around the periphery. The woodland floor was dominated by Bramble *Rubus fruticosus*, Bracken *Pteridium aquilinum* and Broad Buckler Fern *Dryopteris dilatata.* Flowers were not numerous but included Hedge Woundwort *Stachys sylvatica,* Common Violet *Viola riviniana* and Herb Bennet *Geum urbanum.* The only strictly woodland herbs were Three-veined Sandwort *Moerhingia trinerva* and Wood Poa *Poa nemoralis.*

Bird song was still prominent despite the rain and the time of day, with Chiffchaff, Blackcap, Willow Warbler, Great and Blue Tits, Blackbird and Wren most persistent. Perhaps it was the rain of the last week, but fungal fruiting bodies were showing strongly, with the gill fungi Charcoal Burner *Russula cyanoxantha.* Weeping Widow *Lacrymaria lacrymabunda*, Butter Cap *Collybia butyracea* and Panther Cap *Amanita pantherina* identified with an assurance that belied my competence. Jew's Ear *Auricularia auricula-judae*, Birch polypore *Piptoporus betulinus* and a few resupinate polypores on dead wood were added to the list.

We left at about 2pm in an intensifying downpour to eat our lunch elsewhere - home!

Neville Crowther

CAMMO

Date 30th June
Leader Stephan Helfer

The ENHS / BSS outing for micro fungi was a first. Hopefully there will be more such outings in the future, as this meeting turned out to be quite interesting. Not that we found anything out of the ordinary, but the whole aim of the exercise was to get people to look out for micro fungi, a group of organisms often overlooked.

All eight participants in the group were members of the Natural History Society, to whom the leader had given a talk on this group of organisms (the micro fungi!) earlier this year. The weather was splendid, if a little cold for the time of year. It was disappointing not to find more aecial stages (cup-shaped fruiting bodies) of rusts, as normally this is the best time to find them.

However we did find a number of Rusts on different species of grasses, and also *Puccinia punctiformis*, with its distinctive smell of honey, on Creeping Thistle, although we had to search for it. On the other hand, the leader identified a greater number of powdery mildews on Dead-nettle *Lamium album*, Stinging Nettle *Urtica dioica,* Cow Parsley *Anthriscus sylvestris,* young Oak leaves and several grasses. We only had one Smut - *Ustilago violacea,* on the anthers of Lesser Stitchwort *Stellaria gramina.*

Stephan Helfer

GULLANE OLD RAILWAY and WEST FENTON FARM

Date 10th July
Leader Margaret Watson

This was an outing in two parts: in the morning we followed a path from Gullane which led past the ruins of Saltcoats Castle and onto the track of the old railway line. There were old garden roses, growing wild, at the beginning of the path, which became a track between fields. A micromoth posed obligingly on a potato leaf for its photograph, a Yellowhammer sang in a Hawthorn tree, and all along the way were beautiful clumps of White Campion *Silene latifolia.* The rather damp weather discouraged the Butterflies but Goat's-beard *Tragopogon pratensis* went-to-bed-at-noon, beside its large seeding heads. The ruins of Saltcoats Castle rose on our left. The grounds were heavily overgrown with plants, shrubs and trees, but here were found the white Plume Moths, dainty, fragile, little aeroplanes, whilst the real planes roared overhead from the Air Display at East Fortune.

When we reached the track of the old railway the weather improved and the Butterflies came out - Ringlets, Meadow Browns and Small Heaths. There was a small patch of Greater Knapweed *Centaurea scabiosa*, two active Peacock Butterfly Caterpillars, and on one Ragwort plant the Caterpillars of the Cinnabar Moth. A detour was taken into a field where there were Nodding Thistles *Carduus nutans* and a few 6-spot Burnet Moths. Unfortunately the route in was through a thicket of shoulder-high Hemlock *Conium maculatum*, smelling strongly of mice. Then it was time for lunch.

SALTCOATS CASTLE

This castle belonged to a family called Livingstone. The armorial seal is a band with an Otter's or a Boar's head, coupled with the inscription round it: *Sir Patrick Livingstone de Saltcoats 1593.* The castle always looked older than it really is. It was an extensive structure, but now very little remains. It was of remarkable design, and fourteen close-set gargoyles can still be seen on the impressive, ruined arch. It was inhabited until 1790 and remained intact until 1810, but during the next ten years it was used as a quarry for farm steadings and field dykes. In the process of demolition the stones were found to be so firmly cemented together that they were compared to having been 'sheathed in steel'.

Smuts have dust-like spores and are typically sooty.
Powdery mildews are powdery and have patches of spidery, white growth on the surface.
Rusts are the most interesting, with complicated life-cycles.

The afternoon was taken up with a visit to West Fenton Farm, an interesting example of a modern farm which is diversifying its activities and is farmed in environmentally friendly ways. It has a livery business, looking after about 30 horses; and is home for the Muirfield Group of the Riding for the Disabled Association, which gives riding experience to about 120 people with disabilities. Production of good hay for the horses is therefore a priority.

About twelve years ago the European Commission introduced obligatory set-aside, an area of between 5% and 15% of the farm (varying from year to year) to be left uncultivated, in order to control the food production in the EU. As part of this scheme, West Fenton sowed wild flower meadows in 1993. The EC rules require that these are mown at least once a year, before 15th August. West Fenton mows between the 12th and 15th, to allow maximum time for the flower seed to scatter. Grazing animals are allowed after 15th September.

We saw a field strip which had been planted with Kale as winter food for Grey Partridge, and some of the wheat crop is left uncut to encourage Yellowhammers, Corn Bunting and Tree Sparrows. RSPB volunteers scatter wheat seed during the winter.
Hedges are left untrimmed for 3-5 years and a metre margin left uncultivated round the fields to encourage nesting birds.

Not much left to chance there then !

This outing was led by Margaret Watson and was, as are all her outings, well-prepared and very interesting.

Margaret White

UNION CANAL, RATHO

Date 14th July
Leader Christine Rae

It was a lovely evening when we met in the car park near Bridge Inn. We started walking along the canal towpath below the bridge, heading west. On the way various flowers were identified, including Reed Sweet Grass *Glyceria maxima,* Pineappleweed *Matricaria discoidea,* Pyrenean Valerian *Valeriana pyrenaica,* Meadowsweet *Filipendula ulmaria,* Marsh Woundwort *Stachys palustris,* Common Spotted Orchid *Dactylorhiza fuchsii*, Red Bartsia *Odontites vernus,* Sneezewort *Achillea ptarmica,* Knotgrass *Polygonum aviculare*, Watercress *Rorippa nasturium - aquatica agg.* and Hairy Sedge *Carex hirta.*

We stopped at a few rough steps leading up to the new Adventure Centre, which has been built into one of the old quarries. We climbed up to have a look and picked some Wild Strawberries on our way. A wasp's nest was spotted at the side of the steps. Near this area we heard the songs of a Song Thrush and Whitethroats. A golden-eye Toad was also found.

After a short distance we turned off the towpath onto a track signposted to Ratho. At the sides of the track there were some other interesting plants: Tufted Vetch *Vicia cracca,* Guelder Rose *Viburnum opulus* and Cudweed, probably *Gnaphalium uliginosum.*

We walked past the other side of the Adventure Centre and continued down the old farm track. On the way we heard the mewing of a Buzzard which was spotted sitting at the top of a tree; and two more were seen flying around. The track ends below the towpath opposite the car park.

Christine Rae

BERWICK

Date 17th July
Leader Michael Braithwaite

See Michael's article on Page 6

DALRY PARK

Date 21st July
Leader Bob Saville

See Bob's article on Page 23

SCHIEHALLION

Date 24th July
Leader Mary Clarkson

It was beginning to rain and threatening more as we assembled at the Braes of Foss. From here several cars ferried the assembled NATS 3 kilometres westwards, to near Lochan an Daim and our objective, the Schiehallion limestone pavement. Some members were acquainted with this interesting site but it was delightfully new to many, including this writer.

From the outset interesting finds were made, including: Lesser Clubmoss *Selaginella selaginoides,* Quaking Grass *Briza media,* Yellow Saxifrage *Saxifraga aizoides,* Marsh Lousewort *Pedicularis palustris,* Lemon-scented Fern *Oreopteris limbosperma,* Bulbous Buttercup *Ranunculus bulbosus,* Green Spleenwort *Asplenium viride,* Chickweed Wintergreen *Trientalis europaea,* Field Gentian *Gentianella campestris,* Lesser Meadow-rue *Thalictrum minus,* Scottish Asphodel *Tofieldia pusilla,* Knotted Pearlwort *Sagina nodosa,* Brittle Bladder Fern *Cystopteris fragilis* and Beech Fern *Phegopteris connectilis.* All these were found during a dry interval, although rain continued to threaten, and Schiehallion was shrouded in thick mist.

In addition to the above-mentioned Quaking Grass, many grasses and sedges were encountered: Pill Sedge *Carex pilulifera*, Hair Sedge *C. capillaris*, Bottle Sedge *C. rostrata,* Flea Sedge *C. pulicaris,* Carnation Sedge *C. panicea,* Tawny Sedge *C. hostiana* and Heath Grass *Danthonia decumbens.*

Two other notable finds were an excellent specimen of the Mosaic Puffball *Calvatia utriformis,* and a rather less perfect, but still beautiful specimen of the Light Emerald Moth *Campaea margaritata.*

Perhaps the prize of the day, looked for assiduously, and eventually found by Roger Holme, was the Limestone Oak Fern *Gymnocarpium robertianum.* A rarity indeed!

Having exhausted the possibilities of the limestone pavement the Party now made a brief (and rainy) visit to the Lochan. Before departing for home our NATS visited a nearby Limestone Quarry and Limekiln which had been refurbished as a tourist attraction. By this time the weather had improved again and a vintage car rally provided some additional interest. And so back to the Lothians after a day full of interest.

John Watson

PEPPER WOOD

Date 28th July
Leader Roger Holme

The route, on this warm and still evening, took us from the outskirts of Kirkliston, following the route of the old railway, and thence to Pepper Wood. Pepper Wood itself is not far from the West end of the runways of Edinburgh Airport. Roger, our leader had prepared plant lists for both the railway walk and Pepper Wood, and he challenged all comers to find the ones that he had missed. A small prize was on offer, and if this offended any purists, no one complained.

On the railway walk we encountered many interesting plants including Agrimony *Agrimonia eupatoria,* Common Spotted Orchid *Dactylorhiza fuchsii,* Northern Marsh Orchid *Dactylorhiza purpurella,* Plantain-leaved Leopard's Bane *Doronicum plantagineum,* Hemp Agrimony *Eupatorium cannabinum,* Common Twayblade *Listera ovata,* Celery-leaved Buttercup *Ranunculus sceleratus,* and Hart's Tongue Fern *Phyllitis scolopendrium.* Roger had recorded 103 species (no sedges!) and the party was able to find another 20 or so.

By the time our party reached Pepper Wood the light was beginning to fail and our sortie into the reserve had to be somewhat brief. The wood is well known for its naturalized rarities, and we were able to find some of them including Keeled Garlic *Allium carinatum,* Italian Lords-and-Ladies *Arum italicum,* Ostrich Fern *Matteuccia struthiopteris* (magnificent), White Butterbur *Petasites albus* and Rayed Tansy *Tanacetum macrophyllum.* Lily of the valley *Convallaria majalis,* Pyrenean Valerian *Valeriana pyrenaica,* Green Alkanet *Pentaglottis sempervirens,* Lungwort *Pulmonaria officinalis* and Hornbeam *Carpinus betulus* were also to be seen.

Yellowhammers have made a strong recovery in this area and were much in evidence on this evening. It is indeed sad to think of what might happen to this habitat if the proposed new rapid transit system goes ahead. We completed a circuit of the wood, had a short twilit chat, and made our way back to Kirkliston in near darkness.

John Watson

OTTERSTON

Date 31st July
Leaders Mary Clarkson & Lyn Blades

A fulsome welcome from estate owner, Barry Trentham, greeted the assembled NATS on arrival at Otterston. It was noted that the last time the NATS were at Otterston was half a century ago, in 1951 and again in 1956. We were accorded access to the entire estate, including a cottage with its facilities. The only part which we were advised to avoid was the field containing Mr. Bull and his harem. It was a beautiful day with long sunny periods and very warm.

Formalities over, off we set in groups, with the main party heading for the tower, which they never quite reached. Others explored near Otterston Loch (an SSSI). The low ground to the West of the Loch proved to be a very fertile botanical hunting ground. Finds included Purple Loosestrife *Lythrum salicaria,* Enchanter's Nightshade *Circaea lutetiana,* Bittersweet *Solanum dulcimara,* Water-pepper *Persicaria hydropiper* and Marsh Cudweed *Gnaphalium uliginosum* and several species of the more common ferns. Fine, ancient-looking stands/clumps of Greater Tussock Sedge *Carex paniculata* were all around and a single plant (in fruit) of Coralroot Orchid *Corallorhiza trifida* was discovered. After lunch, one splinter group, visiting a large pond near Crow Hill were delighted to encounter some excellent colonies of Common Water Plaintain *Alisma plantago-aquatica.*

Many fungi were observed, with 18 species being identified in the time available. These included Grey Milkcap *Lactarius vietus,* Weeping Widow *Lacrymaria lacrymabunda,* Artist's Fungus *Ganoderma applanatum,* Chicken of the Woods *Laetiporus sulphureus* and the attractively blue-tinted Conifer Blueing Bracket *Postia caesia.*

There were surprisingly few Dragonflies or Damselflies about although the Blue-tailed Damselfly *Ischnura elegans* was noted. On the recce, in good sunshine, a large Dragonfly, probably *Aeshna juncea,* hawked over our heads as we walked along the track. On the tall vegetation by the first pond there were lots of Blue Damsels, but by the day of the outing this vegetation had been cut down. The splinter group did manage to net and examine both male and female Blue-tailed Damselflies and male Emerald Damselflies *Lestes sponsa.* Meadow Brown Butterflies *Maniola jurtina* were much in evidence, as were Ringlets *Aphantopus hyperantus* and Green-veined Whites *Artogeia napi.* This writer was lucky enough to get a good photo of the Brown China–mark Moth *Elophila nymphaeata.* These moths, whose larvae lead an

entirely aquatic existence, are also unusual in that while being classed as micro-moths, they are actually quite large (22-30mm). Can't explain it.

Everyone returned fairly early in the afternoon to the big house, at Barry Trentham's suggestion, and he took us all on a guided tour of the gardens - a very large and attractive perennial border; a very interesting specimen garden; a caged vegetable/fruit garden; and an orchard and extensive lawns. It was a treat for our Plantspersons.

To round off the day Mrs. Barbara Trentham now delighted us with an elegant and scrumptious afternoon tea on the lawn -- how lovely! We can only repeat an inadequate thanks to our hosts, and to our leaders for arranging this outing.

John Watson

P.S. Apparently 'Otterston' refers not to Otters but is a corruption of 'Others' Toun.

EAST PENCAITLAND TO WINTON HOUSE

Date 7th August
Leader George McDougall

The outing was led by George McDougall, one of the Society's elder statesmen, who at the outset was very apologetic as the route we were taking was not what he had intended, and he had had to spend a considerable time finding an acceptable alternative to his original plan. He need not have been concerned; the day was fine and warm, the paths he had chosen were full of interest to members, and everyone found this a thoroughly enjoyable outing.

The route left the car park at East Pencaitland taking a woodland path down to the River Tyne, then following the river upstream to reach a bridge beyond Winton House. From there it turned into the grounds of Winton House, passing the pond, with a return to East Pencaitland along the estate drive.

The initial botanical interest was in the grasses along the woodland path. 17 species were listed, among them Hairy Brome *Bromopsis ramosa,* Giant Fescue *Festuca gigantea,* Reed Canary Grass *Phalaris arundinacea* and Common Reed *Phragmites australis.* Further on, interesting plants occurred, including Giant Bellflower *Campanula latifolia,* Broad-leaved Helleborine *Epipactis helleborine,* Small Yellow Balsam *Impatiens parviflora* and, by the pond, Branched Bur-reed *Sparganium erectum.*

Mary Tebble

Fungi were also quite plentiful:

It was a surprise to see so many fungi along the way and those of us who were interested in them soon fell behind the main party, as searching in likely places is compulsive. The 'find of the day' was undoubtedly Dog Stinkhorn *Mutinus caninus,* much smaller then the Common Stinkhorn and with pinkish and olive green tones. It was found in an area of deciduous woodland where several specimens of the Common Stinkhorn *Phallus impudicus* also turned up. Other finds included Ugly Milkcap *Lactarius turpis,* growing with Birch; the Charcoal Burner *Russula cyanoxantha* among deciduous trees; Plums and Custard *Tricholomopsis rutilans* on a conifer stump; and Larch Bolete *Suillus grevillei.*

Mary Clarkson

It was also a day favouring insect life: It was noticeable from the start of our walk that there had been a recent hatch of Peacock Butterflies *Inachis io.* They were members of the second annual batch of adults, all brightly coloured and with perfect wings; and so it continued for the rest of the day. Their appearance coincided exactly with the prediction from the phenogram in the new *Millennium Atlas.* Other Butterflies included small numbers of Small White *Artogeia rapae* and two Small Tortoiseshell *Aglais urticae.*

In the woods a partly-dismembered rabbit corpse was apparently being rapidly consumed by a few dozen Common Wasps *Vespula vulgaris* and scores of Bluebottles *Calliophora sp.* and Greenbottles *Lucilia sp.* Two species of Stinkhorn *Phallus impudicus* and *Mutinus caninus* were present in large numbers in the western part of the woodland and also attracted many flies.

Neville Crowther

Looking across the pond, and up the terraced gardens, the Jacobean aspect of Winton House dominates the view. From the old walled garden above the house, you see a more sombre Victorian face to this old Scottish house. The Seton family owned land at Winton in the twelfth century. After the destruction of their tower house during conflict with England in the 1540s, the more settled and prosperous conditions following the Union of the Crowns allowed the 8th Lord Seton to build what Moray McLaren has described as 'one of the finest examples of Renaissance architecture in Scotland'. The king's master mason, William Wallace, designed the castle, and the spiral stone chimneys resemble those of his other notable work, George Heriot's School. Above the terraces is a plaque with a coat of arms and the Latin inscription, *Jacobus Primus Britanniae Franciae and Hyberniae.* For those lacking a classical education, this does not refer to an outdoor stove but to the 'wisest fool in Christendom' - James VI and I, and the fanciful claim of the English kings to the crown of France. The departure of the king to London had been followed by many of his subjects, George Heriot again being one, and their wealth is reflected in buildings such as Winton House.

David Adamson

As it was an open day NATS could partake of tea and cakes which were for sale. This was a day that delighted all 23 members who turned out to enjoy it.

Andrew Gilchrist

ST. ANDREWS BOTANIC GARDEN

Date 14th August
Leader Edith Cormack

We were welcomed and shown round the gardens by two Friends of St. Andrews Botanic Garden, Dr. Edith Cormack and Mr. James Christie. Near the entrance is a statue of St. Andrew sculpted from Craigleith sandstone and made for a niche in a Princes Street building demolished in the 1950s. The present garden was created in 1960 at Bassaguard by the University when the site of the original in South Street, established in 1889 by Dr. John Wilson, first Professor of Botany, was required for building. In 1987 the garden was leased to what is now Fife Council. The council is responsible for its management. The garden is constructed on a slope and arranged in habitats - a theme which continues in the glasshouses. An interesting though unsuccessful experiment was the attempt to create three pools of different pH in a stream which flows into the pond. The area at the top of the slope is laid out in Order Beds and Plant Families. There is a UN 50 Peace Garden where the friends are allowed to maintain the herbs, and near to the pond there is a Buddhist Peace Pole. Roe Deer can be seen in the wooded area. A visit to this small garden is recommended.

While having lunch at the entrance we saw Red Admiral, Painted Lady and Small Tortoiseshell Butterflies; and a Pheasant with three young.

In the afternoon we went to TENTSMUIR

From the car park we walked towards the Eden Estuary to the salt marsh pools. It was quite a long walk through the sand dunes to reach these, but there was a good variety of salt marsh plants and a spectacular display of Grass of Parnassus *Parnassia palustris* in full bloom. On the way back, Peacock and Small Copper Butterflies were spotted in the dunes and those who ventured onto the beach found Prickly Saltwort *Salsoli kali* in abundance. It was known that Creeping Lady's Tresses *Goodyera repens* grew in the pine wood, beside the car park, and although its season was well over, a search revealed several plants still in bloom.

Alison Ramsay
and Mary Clarkson

GLIMPSES OF A BARN OWL at WOOPLAW WOOD

WOOPLAW WOOD - MOTHS

Date 21st August
Leader Jeff Waddell

Eight members drove down to the Borders on a beautiful evening to trap moths with Jeff Waddell. There could not have been a better evening to be out late. We arrived at Wooplaw Woods, just south east of Stow and were met by Jeff along with John Mercer and other members of the Scottish Borders Biological Records Centre Recording Group. Jeff immediately explained that the change in wind direction to northerly which had created the beautiful clear skies had in turn brought much cooler temperatures, and this would mean less moth activity.

Some of our members helped Jeff carry his moth trapping equipment into the woods. John had brought two more traps: the main trap, termed the 'Skinner' trap consists of a wooden box containing egg trays, plastic baffles and a high power mercury vapour lamp. The egg trays provide shelter and allow a place for the moths to rest in. The mercury vapour lamps were powered by mains voltage electricity produced by a petrol driven generator. Jeff explained that the moths are attracted by the ultra violet part of the light given off from the lamp.

Whilst we were setting up, we had glimpses of a Barn Owl that was nesting nearby in the woods, and the calls of its young were heard regularly throughout the evening. Neville also found a fungus, Tawny Grisette *Amanita fulva*, growing nearby.

During the rapidly fading light, both Jeff and John passed round samples of moths they had collected in the previous days. Jeff's moths came from Culbin Forest in Moray-shire and Westhill in Aberdeenshire; John's moths were from Stow in Berwickshire. It was at this time that we were introduced to some of the imaginative names that were given to British Moths by the fanatical Natural Historians of Victorian times. These names included the July Highflyer, the Pretty Pinion, the Dark Marbled Carpet, and the Great Brocade, a migrant from Scandinavia. Jeff had also brought some uncommon species including Portland Moth, Archers Dart and Angle Striped Sallow for us to see.

To help sustain us for the rest of the evening, we all enjoyed the small sponge cakes which Eunice Holme had baked. Bats were flitting overhead.

Then we walked between the 4 traps examining the contents. As predicted the moths were not plentiful, but the following species were caught and Jeff explained the main distinguishing features of each:

Autumnal Rustic, Barred Chestnut, Dark Arches, Dark Marbled Carpet, Flounced Rustic, Ingrailed Clay, July Highflyer, Small Wainscot and Square Spot Rustic.

Due to the number of species and their beautiful markings, moths are one of the more interesting areas of Natural History. Jeff and the local recorders demonstrated that they had an excellent grasp of the subject.

A superb Ichneumon Fly was also caught in the trap, these *Hymenoptera* have larvae that parasitise other insect larvae and their eggs, including moths.

Our thanks go to Jeff and John Mercer for the evening, and also to the Wooplaw Community Woodlands Group for granting permission to trap there.

Roger Holme

PLORA WOOD / PIRNHILL HILL FORT

Date 28th August
Leaders Munro & Frances Dunn

We met at Plora Wood near Walkerburn now owned by the Woodland Trust. For some reason I found it surprising that it had in the past been part of the Ettrick Royal Forest, and pasturage for Melrose Abbey. Most recently it was part of Traquair Estate.

Trees for timber were planted in the 18th and 19th centuries, but many had to be felled for firewood in the First World War. Some exotics were added in the 1960s and 70s, but now the plan is to return it gradually to semi-natural Oakwood by encouraging natural seeding, removing Sycamore and exotic conifers, and allowing the Beech at the heart of the wood to decay naturally.

Our path initially lay through the Beeches with frequent stops to look at fungi. *Mycena pelianthina*, like *M. pura* but with lovely violet-edged gills, was frequent here. Once up on the top forestry path we noticed Violets having a second flowering, also some Oak Fern, *Gymnocarpium dryopteris*, and Scaly Male Fern. *Dryopteris affinis*, and a large brown Leopard Slug, the spotted form of *Limax maximus*.

We separated then to make our own way to Innerleithen. Some of the party lunched in the churchyard having failed to find the picnic tables. That led to the interesting discovery of clusters of Shieldbugs on the back of a bench. Were they thinking of hibernating, we wondered. Subsequent research now points to them being Parent Shieldbugs, *Elasmucha grisea*, known for this grouping habit. They go through 5 stages before becoming adult. Ours appeared to be at the 5th Instar stage of development.

Pirnhill Hill Fort was our objective in the afternoon. No ancient fort now, but on the site stands a circle of striking carved stone slabs depicting the history of the town, including St Ronan defeating the devil, the coming of the railway, sheep and the woollen mills along the Tweed, and the present day St. Ronan's festival.

We returned by a forestry road with very different flora and fungi from the morning. Yellow Rattle, *Rhinanthus minor* and Red Bartsia, *Odontites vernus* were common and the fungi were mainly *Bolete* type species.

Many thanks to Munro and Frances for this interesting day in the Tweed valley.

Jean Murray

WALLACE'S CAVE

Date 11th September
Leader John Watson

Our venue, with our cave, is situated on the North-west edge of West Lothian, which at this point is bounded to the North by the River Avon flowing toward Linlithgow Bridge. Starting at the cave itself, our itinerary was to follow the riverside path downstream (River Avon Heritage Trail) for about 2 miles before reaching some ruins - the Birthplace of Henry Bell of steamship fame 1767-1830. We would then return at a higher level, and through some excellent mixed woodland, to the starting point. Luckily, by 10.30 am. the previous night's rains had relented and, 12 strong, our party set off for the cave.

The story of Wallace's cave, where he is supposed to have successfully hidden from the searching English, is based purely on local folklore. However, the battlefield of Falkirk is only 10 miles off and in 1296, the year before the battle, Wallace signed a charter at the village of Torphichen, just 1.5 miles away. At least he must have known the area. This Charter still survives, and bears the only signature of Wallace that we have. Torphichen itself, now a backwater, was in Wallace's time, the Headquarters of the Knights of St. John of Jerusalem, a wealthy and influential organisation.

Unfortunately, it was a very windy day, and we looked in vain for butterflies, this despite two good wild-flower meadows with lots of Knapweed *Centaurea nigra* and Devil's-bit Scabious *Succisa pratensis* still in bloom. In a recce earlier, large numbers of butterflies had been seen, including a Comma *Polygonia c-album*.

The lack of butterflies was more than compensated for by the wealth of fungi. Some of the more beautiful or unusual specimens included: Fly Agaric *Amanita muscaria,* Poison Pie *Hebeloma crustuliniforme,* Jelly Babies *Leotia lubrica,* Alder Bracket *Inonotus radiatus,* Porcelain Fungus *Oudemansiella mucida,* Burnt Knight-cap *Tricholoma ustale,* Red-dappled Web-cap *Cortinarius bolaris* and Lemon Disco *Bisporella citrina.* Prime specimens of Brown Roll-rim *Paxillus involutus* were everywhere. One odd specimen of Beech Milk-cap *Lactarius blennius* had a cap growing out of the cap. One specimen of Ugly Milk-cap *Lactarius turpis* was so perfect as to be quite beautiful in a dingy way.

The best feature of the day had to be the troops and rings of fungi in the woods, most in peak condition, with top marks going to a huge shooting gallery of Stump Puff-balls *Lycoperdon pyriforme* on some fallen trees. One fellow excursionist enjoyed some of these later – fried in butter with bacon and tomato !

We had an excellent day in the shelter of the valley and were lucky to have a dry interlude. Lunch was in a Beech hanger, with Porcelain Fungi, and a jolly swing suspended from one of the trees. Finally, back to the cars, just ahead of the approaching rain showers.

John Watson

ARNISTON ESTATE

Date 18th September
Leader Mike Richardson

The advertised venue for this foray had been Carrington Mill Wood which hugs the steep-sided valley of a tributary of the River South Esk. When this proved not to be feasible, we were delighted to have the opportunity of foraying in Arniston Estate, on the banks of the South Esk itself, by kind permission of the Dundas-Baecker family, and through the good offices of Neville Crowther.

Dull weather and a chilly wind were soon forgotten as it was obvious right from the start that there was an abundance of fungi, in complete contrast to the dearth which had been suffered in the dry conditions of 2003. Our route lay first through an area of parkland near Arniston House with mature specimen trees, Beech, Oak, Horse Chestnut, followed by a descent to the river by a steep path which led through a variety of trees of varying age. We forayed on both sides of the river but could not explore the opposite side of the valley before time ran out.

Right at the start, we found splendid specimens of *Coprinus comatus* - some white and curled as suggested by one of its English names of Lawyer's Wig; other more mature specimens dripping black fluid and living up to their other name of Shaggy Inkcap. Hereabouts, too, was *Lacrymaria lacrymabunda* the Weeping Widow, whose dark gills 'weep' when they are moist. The area of parkland produced many species typical of Beech including the white, slimy *Oudemansiella mucida* the Porcelain Fungus, *Russula nobilis* (formerly *mairei*), the Beechwood Sickener with its clear red cap, white stipe and hot taste, and *Lactarius blennius* Beech Milkcap, another slimy toadstool but with a greenish-grey cap and very hot milk. There were surprises, too: *Hygrocybes*, or Meadow Waxcaps, normally grassland species, were found on and beside the path in woodland. On the far side of the river, a splendid specimen of the bright yellow *Laetiporus sulphureus* Chicken of the Woods seemed to glow on the trunk of a Cherry tree, and *Helvella elastica* Elastic Saddle, which is not too common in Scotland, managed to survive the feet of the party tramping along the path and back, only a few inches away from it.

Specimens were brought to our leader thick and fast and he identified most of them expertly on the spot, only a few being taken away for microscopic confirmation. We thoroughly enjoy Mike Richardson's forays. His enthusiasm is infectious, and there are always snippets of interesting information (did you know the mechanism for the dispersal of the spores of *Xylaria polymorpha* Dead Man's Fingers, or how to identify *Mycena polygramma* with your lips?).

Mary Clarkson

Have you seen Fighting Fungi (where the mycelium of one of the Xylariaceae within wood appears as a black line as it meets another mycelium) and DO you know how to identify Mycena polygramma with your lips (the very fine striations on its stipe cannot be felt with the fingers but they can with the lips)? MC

ABERLADY

Date 25th September
Leader Bill Clunie

Seven members of the society assembled in the car park at 10.30. We headed off along the main road towards Aberlady village, to observe the birds along the Peffer Burn. We saw Mallard, Wigeon, Shelduck, Redshank, Curlew and Lapwing.

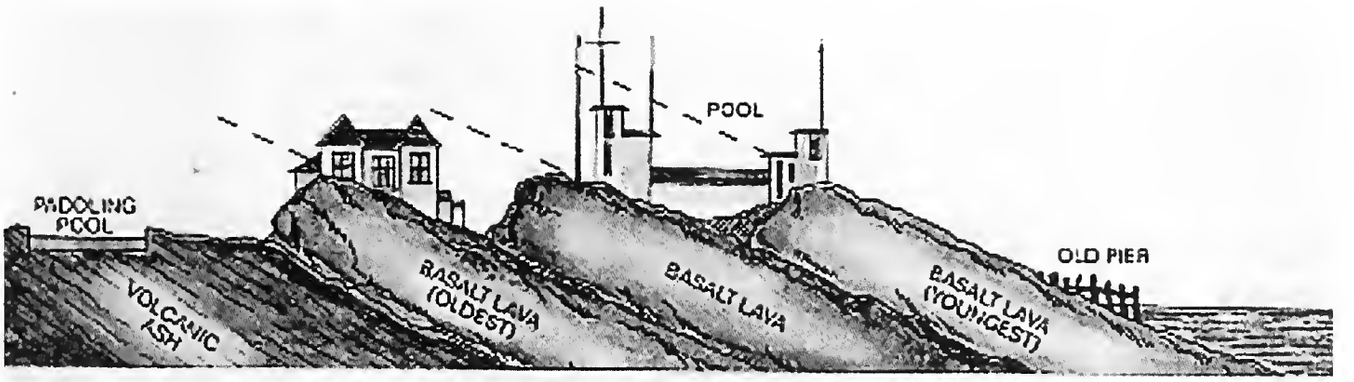
We then turned along the road and crossed over the wooden bridge into the reserve. We passed the Marl Loch and sewage works, along the way seeing Reed Bunting, Stonechat and Redpoll. After the sewage works we crossed the golf course and headed towards Gullane Point, where we stopped for lunch. During lunch good views of Gannets, Velvet Scoters, Red-breasted Mergansers and Eiders were had by the party. After lunch we headed along the beach towards the old Tern nesting area, having good views of Sanderling, Ringed Plover and Grey Plover at the end of the sand spit area. We returned via the main path.

Bill Clunie

DALMENY ESTATE COAST - FUNGAL FORAY

Date 8th October
Leader Neville Crowther

Heavy rain overnight and into the morning, threatened disarray, but fortune favoured the brave. By 11 am the rain had ceased and it remained bright and blustery until the late afternoon. Sixteen began the walk and only two made early retreats. Our searches strayed little beyond the coastal strip and the inland border of the road, but that was sufficient to find a wide variety of fungi: over 70 species were identified. As we began the walk, many juvenile Gannets were to be seen turning back east when confronted by the 'barrier' of the Rail Bridge. Curlew and Redshank called along the shore, and the penetrating screeches of Sandwich Terns maintained the connection with summer.



TILTED LAYERS

The many Sycamores and Limes were distinctly unproductive but a mature Horse Chestnut provided shelter for a few dozen Stinkhorns *Phallus impudicus,* in every phase of development. Particular note was made by Roger of one fruiting body which was glistening with khaki-green spores and busy with flies in the morning, but white and stripped bare by afternoon. As always however it was the Beech trees that provided the best microhabitats for both mycorrhizal and saprotrophic species. At least 5 common species of *Russula* were in the former category and the unusual *Neobulgaria pura* was found on stumps along with two species of *Ganoderma*: *Heterobasidium annosum* and Jew's Ear *Auricularia auricula-judae.* The thick mast beneath the Beeches was home to four species of *Collybia*, two of *Laccaria* and three of *Mycena.*

The greatest contrast in fungal habitats came at Hound Point where we came into open ground with maritime grassland and cliff. As hoped, there were many Waxcaps which included Blackening *Hygrocybe nigrescens*, Parrot *H. psittacina*, Scarlet Hood *H. coccinea,* Snowy *H. irgineus* and several *Clavulariaceae.* Other grassland fungi found were *Calocybe carnea* and *Cystoderma amianthinum.* Vascular plants of note for their scarcity in West Lothian included Burnet Rose *Rosa pimpinellifolia* and Lesser Meadow Rue *Thalictrum minor.*

The walk back to our cars was rather quicker, as the clouds began to blacken. A Bonxie flew powerfully past, pursuing Terns, as we arrived at South Queensferry to give a nice conclusion to the day.

Neville Crowther

VOLCANOES AT NORTH BERWICK

Date 30th October

Leader David McAdam

Fifteen members assembled by the Seabird Centre to enjoy a morning led by David McAdam, whose knowledge and understanding of the geology of this area are unrivalled. The walk never went more than a few yards away from the Centre, yet the leader was able to illustrate a host of features of a volcanic landscape.

Had the mist not been as thick, we would have seen the familiar outlines of Berwick Law and the Bass Rock, the trachytic stumps of volcanic pipes which were the remnants when the cones of the volcanoes have been worn down in the more than 300 million years since they were active. David explained dykes, vertical intrusions of magma, like those of the rocks in East Bay; the similar horizontal underground intrusions which form the island of Fidra, lost in the mist today; and Traprain, which is a laccolith, a large globule of magma extruded underground from a volcano, all of which only became visible as a result of the erosion of softer rocks around.

We started at the Paddling pool and examined the red rock, which is called *tuff* and is formed from the layers of ash and rock hurled into the air by volcanic explosions; the colour here is attributable to ferric oxide. We looked at the irregularly shaped pebbles and small rocks embedded in it. Further along the beach there is a layer of green tuff, the colour in that case due to its content of ferrous oxide.

Since being laid down in the horizontal, these layers and the lava flows above them have been tilted, so we could follow the succession in time as we walked back towards the Seabird Centre. Four lava flows could be distinguished, though the first is quite shallow and very fissile. The bottom of a flow in contact with the ground cools rapidly, forming larger crystalline features; the middle, cooled slowly, generally forms a hard rock; and the upper surface in contact with the air tends to be more frothy with remnant bubbles (vesicles) which may in time be filled by substances such as augite or olivine.

The second and fourth lava flows are dark basalt, which is more basic and less viscous than trachyte, and usually is erupted before the latter. Between these two flows the middle flow has apparently been mostly quarried for building material, though a small area of it on the east side ot the old swimming pool was available for inspection. Many buildings in North Berwick are built of red rock quarried from the Law.

This outing was greatly appreciated by members who admired the lucid explanations that David McAdam was able to provide.

Andrew Gilchrist

FOOTNOTE

While waiting for the group to assemble, I pointed out to our leader a very nice Fern growing on the wall behind us. David thought that it was a good idea to let everyone see it.

There were small tufts of Wall-rue *Asplenium ruta-muraria*, the delicate Maidenhair Spleenwort *A. trichomanes* with its black stalks, and the larger Black Spleenwort *A. adianum-nigrum.* Its brittle stalks are dark at the base, and ran back a long way into the wall cavity. The largest Fern was a Polypody, which may be Intermediate Polypody *P. interjectum.* Its oval sori were still unripe,

Buck's-horn Plantain *Plantago coronopus* had also established itself, a pretty little thing, and one Sea Pink *Armeria maritima* had found a crevice at the top of the wall. At its base the plantains were joined by Groundsel *Senecio vulgaris* in full flower, as always.

Quite a 'walled' garden!

Mary Robertson

VOGRIE

Date	27th November
Leader	Molly Woolgar

Two kilometres SW of Pathhead is the Vogrie Estate. In 1875 a house was built there for the Dewar family, of whisky fame. Trees such as Cedar were planted on the large grassy areas, stretching on either side of the drive. Beyond the house, woods go down the valley sides to the River Tyne. Now this estate is a country park, with many pleasant paths to follow.

The day was overcast, so the birds' colours did not show up too well, but sound, silhouette and behaviour helped in identification. Our first sighting of a flock of birds eating Holly berries, and a faint 'seee' sound meant Redwing; Fieldfare have a harsh metallic 'chack' sound. The eyestripe of the Redwing showed more clearly than the red beneath the wing in the poor light. Colour was much better when the Nuthatch appeared on one of the many feeders put up amongst old fruit trees. This is the second winter a single bird has fed here regularly. Twenty years ago this bird was beginning to colonise Scotland, just over the border from England, at big estates like The Hirsel. Now it is being seen further north.

Another good sighting, this time known by shape, was the Long-tailed Tit; a flock fed briefly in Alder trees by the pond; there was a Treecreeper too, but they moved on quickly and were not seen by everyone. Our last good bird before lunch was Bullfinch. Although rain was beginning, the colour of these birds is so bright that they glowed, high up and posing on Silver Birch.

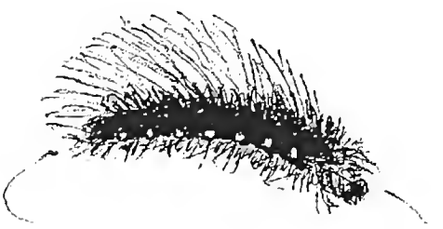
A shorter walk along a different path after lunch started with the 'chip' sound of the Great Spotted Woodpecker. It was seen by one or two of us then, but later by the fungus-spotters, who enjoyed their own view of it on the bird feeder.

The fungi group showed us the fruiting body of a small bright green fungus on the rotting tree stump, going by the delightful name of Green Elfcup or *Chlorociboria aeruginascens.*

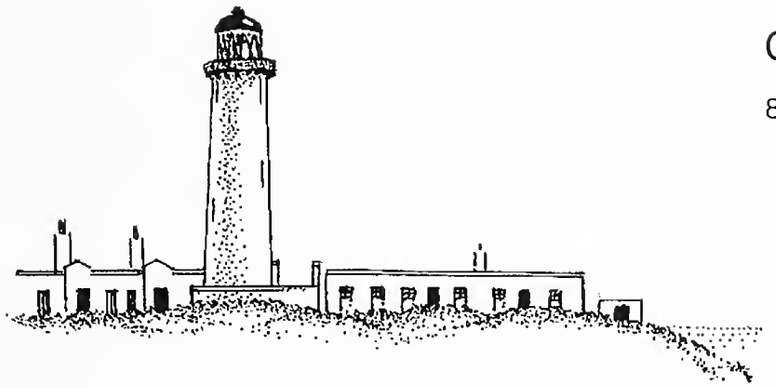
Molly Woolgar

THE AMAZING GARDEN TIGER CATERPILLAR

On the 23rd of May I saw an amazing Garden Tiger caterpillar *Arctea caja* near Whiteadder Reservoir. On 27th of May, while visiting Rackwick Bay on Orkney, I saw yet more Garden Tiger caterpillars. They seem to eat anything from Shoreweed *Littorella uniflora*, to Forget-me-nots *Myosotis sp.*, to heathy plants. (See Photo Pages) *JM*



A GARDEN TIGER CATERPILLAR
Long white hoirs above,
ginger below, block in between



GALLOWAY

8th - 11th June

BATS in GALLOWAY ... Sunday

Natalie Taylor

When the excursion committee decided that Galloway should be the destination for the NATS 2004 summer excursion, I am sure that no-one will be surprised to hear that my immediate response was bat-related!

Although only a relatively short distance away from the Lothians, Galloway has a good population of Noctule Bats *Nyctalus noctula*, for which we have only three substantiated records in the Lothians. The area around Newton Stewart is also home to the most northerly mainland population of Leisler's Bat *Nyctalus leisleri* in Britain. So it is not hard to believe that as soon as the sun set on the Sunday evening, I was to be found skulking around listening closely to the clicks and squeaks coming from my bat detector.

Noctules and Leisler's are very similar species in many ways, both are early risers, usually emerging within the first half hour after sunset. They are two of the largest British Bats; they echolocate at a much lower frequency than other British species, and fly high and fast above the trees in open habitats and perform steep, falcon-like dives on prey. For me, one of the key differences between the two species was that I had seen Noctules on a few occasions, but had never seen or heard Leisler's! So, the hunt was on.

Despite the slight drizzle, the Great Galloway Bat Hunt began on Sunday evening with a walk down to the river. Almost as soon as we left our B&B the Pipistrelles were there, zipping about the trees snatching midges from the air. After spending a while walking along the side of the river I was beginning to accept that either we were too late for the Noctules and Leisler's, or the weather was putting them off. I was just trying to explain this to the other batters and make excuses for the no-show of the star attraction, when I suddenly caught sight of what seemed to be a huge great bat flying high and fast along the top of the trees, classic *Nyctalus* behaviour!

As quickly as possible we tuned the Bat detectors down from the 50khz that we were listening at for the Pips, to 25khz that would pick up the bigger Bats.

Sure enough, there it was the classic two-part 'chip-chop' call given by both the Leisler's and Noctules. Due to my lack of experience in identifying *Nyctalus* species either by jizz or with a Bat detector, I reckoned the safest strategy would be to record the calls of the bats we heard and analyse them later using a computer programme called Bat Sound. Certain Bat detectors have a function called time expansion. These are able to expand the calls, thereby slowing them down and making them audible to humans, rather than changing the sound as heterodyne detectors do, to make it audible. By playing these time expansion recordings through Bat Sound, it is possible to do all sorts of fancy things which (usually) enable you to identify the species. Unfortunately, due to the drizzly weather, I had left this costly piece of kit (which I was borrowing from a friend, so being rather cautious about!) back at our B&B, so was forced simply to watch and listen as the mystery Bat obligingly flew up and down the line of the trees on the riverbank. We also got some nice views of Daubenton's Bats skimming insects from the surface of the river and the Pips flitting around the edge of the trees; very nice!

The next night was dry, and I was ready with myBat detector and recorder when the first big bat appeared. Luckily for those who had to spend time with me, I was able to make a number of decent recordings! But still I wasn't satisfied. The following night saw me dragging a few unlucky souls along to the Wood of Cree, one of the best known Leisler's sites in Galloway, continuing my quest for the elusive Bat! However our luck was out, as we saw not a single Bat, but did make the intimate acquaintance of about half the Galloway midge population. I have never seen anything like the midges that were there that night, the air was heavy with them, filling our noses and mouths with every breath we took – we didn't stay long! But while standing on the Otter platform we were fortunate enough to see two Barn Owls hunting across the fields, and a Woodcock flying overhead.

Wednesday night, back again to the Wood of Cree – honestly it's not an obsession! A slightly different strategy tonight, one that would hopefully involve fewer midges; instead of heading along to the car park, reputedly the best place to see them, we drove slowly along the road looking for likely feeding areas. And it worked, we managed to find a good vantage point

looking out over the valley with good tree lines and open patches, and a big Bat happily feeding. Cue more recordings; by this time I was up to about 2 hours of tape, which would take about four hours to analyse – that's dedication, or perhaps it is obsession?!

Our final night was spent looking for Nightjars with Chris Rollie, but still I had my bat detector and recorder with me – just in case. Just as well, as we had a brief encounter in the forest with a *Myotis* species, of which I was able to get time expansion (TE) recordings. Unfortunately, *Myotis* are very difficult to identify on the detector, .even with TE recordings analysed on computer.

So what did all these hours of recording and providing a feast for the midges tell us? Well the Bats we saw along the river were Noctules, as they had been most likely to be, but the Cree Valley had lived up to its reputation and provided us with a Leisler's. The forest Bat was most likely either a Natterer's or Daubenton's, both of which are around the area.

Although a self-confessed technophobe, I have to say that Bat Sound is perhaps the one element of computers that I would go as far as to say I like! When you get the hang of it, it is a very useful tool, although when you find strange noises in amongst the Bat calls, it does sometimes lead to questions as well as answers. Just when you think you're getting the hang of the calls you find them changing with the landscape, whether or not the Bat is in an open or enclosed environment, if it's feeding, social calls... The list goes on, but I'm getting there!

CLATTERINGSHAWS on Monday

Roddy Clark

Imagine a beautiful and tranquil expanse of water ringed by surrounding hills and high tops. Imagine all the shades of greens, browns and greys you can think of. Think of a loch stretching into the distance with the hills and mountains closing in behind and the immediate foreground fringed with a belt of trees widely spaced on one side of the open shore. And then finally see yourself as a painter or photographer, and in front of you is the most perfect scene any such person would wish for as a subject. If you can imagine all this, then you will be there at Clatteringshaws Loch, It was our starting point for the day's excursion described here. It would have been very easy to stay there the whole day and just lie back, soaking in the scenery, next to the attractive wooded loch fringe.

However, we had a lot to see that day, so we had only a short time. The whole day was one of the most interesting and varied ones I have ever had in all the many years that I have been with the Society. What delighted me further was that I saw many things outwith wildlife which interest me greatly - it was so unexpected, and all the better for that.

Immediately we left the car park the road curved downhill through one of the most impressive rock cuttings I have ever seen anywhere, to be followed immediately by the awesomely high wall of the loch dam towering high above us as the road passed immediately below. This dam was built in exactly the same way as the ones bombed in Germany by the dambusters force in World War II.

Just after this point, we turned off the main road onto a roughly surfaced road. We turned into it and so began our journey down the Raider's Road. This lengthy section was so called because in the past it had been used by bands of men to drive stolen cattle from one area to another. It was a sort of secret route. All along it there were beautiful views. The whole length of the road was totally in the forest with several areas where the forest opened out to reveal panoramic vistas of the valley mountains emerging from the forest. With the Black Water of Dee on one side, the road gradually descended through the forest to the valley floor eventually following the river. I knew that it was going to be an enjoyable journey as soon as the road entered the mysterious atmosphere of the forest. The road was well provided with information boards, giving a good idea of land use in the valley over time, ranging from agricultural to forestry. One of the most attractive points was the Otter pool marked by a sculpture of an Otter. Unfortunately no Otters were seen. This area was particularly peaceful, still and tranquil.

Near the end of the Raider's Road we came across Stroan Loch, a smaller one than Clatteringshaws Loch. This loch has a lot to offer the visitor. It is extremely scenic and gave me an unexpected surprise - in fact a big bonus. One of my interests is railway history and architecture. And there round a bend in the road was a spectacular railway viaduct - not a great high one, but at a rather nice low height above the end of the loch. The information board revealed that this structure is part of the long-closed Stranraer to Dumfries railway line. This line was opened in the years 1859 -1861 and closed in 1965. An unusual angle to its history is that this viaduct is on a section of line used by John Buchan in his novel *The 39 Steps*, published in 1915.

An extra special feature which put some more life into what I was seeing was a plaque in memory of a much loved forester, Charles Parley, who had a deep concern for the area. (See photograph section in journal). I always have great pleasure in coming across a prominent person with whom I am totally unfamiliar. So I remained glued to the spot studying what was said about this man and admiring the landscape which he looked after and was so fond of.

This 10-mile section along the Raider's Road within the Galloway Forest Park, an area of 500 square miles of forested hills, wild and rugged moorland and numerous lochs was a remarkable experience in the diversity of things to be seen. It was a most exhilarating experience, exploring the many facets of this route.

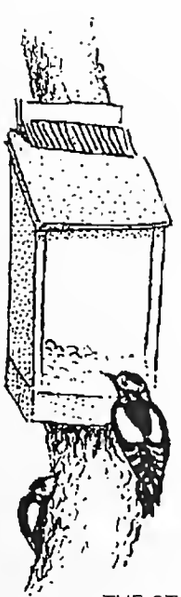
When we left the Raider's Road, we then came onto the Galloway Kite Trail, passing two most attractive lochs on the way - one far down below the road and tantalisingly screened by a belt of trees so that only fleeting glimpses were visible. This was Woodhall Loch. The other loch - really a lochan - was very pleasantly situated, nestling in the slight hollow in the field. Nearby the disused Stranraer to Dumfries railway passed underneath the road.

A bit further we reached our destination, the Loch Ken RSPB Reserve. This last section afforded the widest panoramic views of the whole day with the particularly wide view of the River Dee and Loch Ken Valley stretching out on one side of the road. The rough track through the reserve led us past some beautiful salmon-pinkish blossom on small sized trees. I was especially struck where the driveway twisted and curved through the wooded loch fringe, as the side of the driveway away from the loch was piled high with great banks of deep reddish-pink rhododendron blossom. It was bank upon bank of these bushy plants going up the steep lush slope with the wood topping it. It was extremely breathtaking. After the driveway turned round the end of the loch, the route to the hide led us through another type of woodland. The way now became a lovely soft grassy path, with a very pleasant feel to it. The view from the hide was superb. This reserve throughout its entire length was provided with excellent information boards, describing the trees, birds and insects to be found.

THE STAR ATTRACTION

It was in this reserve that I experienced the greatest thrill of the whole day - one of those once in a lifetime sensations one sometimes experiences in natural history. And it almost never happened. The particular creature in question was seen by others from the first hide at the start of the loch, but I was so busy photographing along the way that by the time I caught up with them they were leaving this hide. So I thought - that's it: I have missed it and they were so lucky!

Putting this disappointment behind me I stuck with them this time, enjoying to the full the rest of the walk to the second hide. We returned the way we had come, so as I passed that first hide with the same people who had seen that creature from it earlier on, I spoke up and suggested that we go into the hide. Fortunately, everybody else was glad to do this. And there it was - what I'd missed before. It was sheer delight to observe it and well worth making the special effort to stop by and see it. What I saw was something I had never seen before. A Great Spotted Woodpecker! That is what I saw. Wow! What a marvellous experience it was. That has been the fondest and most pleasurable memory of the day.



THE STAR ATTRACTION ...GREAT SPOTTED WOODPECKER!

MULL of GALLOWAY .....Tuesday

Joanie Fairlie

The Mull of Galloway Nature Reserve, on the most southerly point in Scotland, is leased from the Northern Lighthouse Board and has been managed by the RSPB since 1975. Spectacular views from the Mull take in the Galloway Hills to the east across Luce Bay, and the Isle of Man to the south-west. The Cumbrian Hills can be seen on a clear day across the Solway Firth, and Ireland hugs the horizon to the west.

An RSPB volunteer, Pete, kindly gave up a part of his day off to show us round the Reserve. He met us in the car park and gave us a brief introduction to what could be found. Choughs are reported, attracted to the Mull from the Isle of Man. There is a small population of Twite, but sadly not breeding this year. On the cliffs is a nesting pair of Peregrines with one chick. It was thought the chick may be dead, but to our delight we discovered this not to be the case. Also on the cliffs is a rare variety of Sea Lavender, probably *Limonium recurvum ssp. humile,* which is recorded for this area; but crampons are recommended if one wishes to venture a climb down to see it! Hogweed is a bit of a problem on the Reserve. Unfortunately the numbers of Yellowhammer are declining.

We set off through the gate into the area around the lighthouse, which is surrounded by dry stane dykes. Here, maritime heathland wildflowers grow, and only light grazing is permitted. The cliff tops are rich in several locally-scarce species such as Spring Squill *Scilla verna,* Purple Milk-vetch *Astragalus danicus,* Sea Campion *Silene uniflora* and Sheep's Bit *Jasione montana*, all of which we identified. We also found Northern Marsh Orchid *Dactylorhiza purpurella.* I regret to say that my knowledge of things botanical is not brilliant but I was able to identify Bird's-foot Trefoil, Sea Pink, Tormentil and some others.

We were not blessed with clear weather - not cold, but a mist swirled in and out most of the time, not unlike the east coast haar to which most of us are accustomed. But we were lucky to get some breaks of bright sunshine with reasonable views of the cliffs and out to sea a wee way. And the breaks in the mist were long enough to watch the Auks buzzing about below us and sitting on the big-swell sea – Guillemot, Bridled Guillemot, Razorbill and three-quarters of the total Puffin population – all six of them! We were lucky to get good glimpses of adult Gannets with a few juveniles flying past; and Herring Gull, Great Black-backed Gull, Kittiwake; and Fulmar with their fixed-wing bomber flight, always reminding me of the film the Dam Busters. I had a lovely time watching a pair of Twite playing tag in the air and alighting on the dyke. Of the other little birds, there were Skylark, Meadow and Rock Pipit, Wheatear, Pied and White Wagtail, Stonechat and Common Whitethroat, Yellowhammer, House Martin and Swallow.

When people ask me what was the best bit, or best bird, I never know. It's all so 'best'. On this occasion however, I have to admit to having an answer - the Peregrine chick on its nest. After quite some time sitting on a carpet of Sea Pink watching the ball of fluff, the female arrived, sat beside its young and spent a long time watching us watching it. I often wonder what the birds think of us humans with our binoculars and telescopes, a barrage of tripods looking like something out of War of the Worlds!

Of the Butterflies, I only saw one, a Painted Lady, which is apparently one of eight species recorded on the reserve. Finally, Jean and Lyn reported a sighting of Grey Partridge. Oh, and we saw a Seal in the sea, but I stupidly did not write down whether it was Common or Atlantic, and I now can't remember. Silly me!

FOOTNOTE

Eileen Perry

On the visit to the Mull of Galloway the Warden pointed out a Peregrine Falcon's nest on the cliff, on which we could see a young bird. The Warden said that the previous year he and a colleague had watched a man abseiling down the cliff to a similar nest and removing eggs. The man was caught by the Police and subsequently prosecuted and fined. The criminal was reported to have said 'Fines do not worry me as my sponsor will pay'!

THE PLANT-HUNTERS

After lunch we stopped to admire the wonderful spreads of Burnet Rose *Rosa pimpinellifolia* and Wood Vetch *Vicia sylvatica* and great mounds of Sea Kale *Crambe maritima* on the shingle along the west side of Luce Bay. We were on our way to Port Logan, to seek the Oysterplant *Mertensia maritima.* No luck! We did find Sea Radish, Sea Kale, Sea Rocket, Hemlock Water Dropwort and Sea Sandwort, ...but no Oysterplant

A BUSY DAY ON WEDNESDAY.....

On Wednesday some of us covered quite a bit of ground! After a short spell of bird-watching at Wigtown Bay, where the highlight was excellent sightings of Sedge Warbler. Then we were off to visit St.Ninian's Cave, where some botanical goodies were to be found. We saw Smith's Pepperwort *Lepidium heterophyllum* on the rocks, and on walking along the shore towards the cave, added, amongst others, Portland Spurge *Euphorbia portlandica,* Sea Spurge *E.paralias*, Sea Spleenwort *Asplenium marinum*, Sea Beet *Beta vulgaris ssp maritima*, Ivy Broomrape *Orobanche hederae,* Rock Samphire *Chrithmum maritimum* (on the clifftop) and Wild Carrot *Daucus carota.* In the grass on top of the cliff, there was lots of Dyer's Greenweed *Genista tinctoria* and probably other interesting things, but we did not have enough time to explore the area fully.

Next we drove to Monreith, where we saw more Spurge, Yellow-horned Poppy *Glaucium flavum*, and again sheets of Wood Vetch, but no Oysterplant. Eventually we found it, in good shape, near Cock Inn. After all that we arrived back, only just in time for dinner and Peter Hopkin's talk on CVCWT.

ON THURSDAY we went with Peter to Glen Trool.

THE GALLOWAY GOAT SUCKERS!

Natalie Taylor

The Thursday evening of our Galloway holiday saw a select group of hardy NATS braving the famous midges of the Galloway Forest Park to seek one of its rarer nocturnal inhabitants.

Looking remarkably like a gang of bank robbers, thanks to our midge nets, we met Chris Rollie (who gave us such an interesting talk earlier in the week) at the end of Raider's Road and headed up into the forest, our ears alert to the sounds of the night, all listening intently for one particular eerie song.

We were searching for Nightjars, a summer migrant to Britain which reaches the very north of its range in Galloway. They arrive in late April, and lay their first clutch of two eggs in mid May; these are incubated for about two and a half weeks. When the chicks are only a couple of weeks old, the female leaves them to the male's care and begins to incubate a second clutch. The raising of the chicks is a rapid business as the birds begin their migration back to the southern half of Africa in August.

Having driven high up into the forest, we then set out on foot, our hands cupping our ears to assist us in listening for the famous 'churr' of the Nightjar. Then suddenly, there it was, one of the most peculiar sounds I've ever heard, sounding more mechanical than avian. Cupping our ears into our best Micky Mouse impressions to help us pinpoint the origin of the sound, we strained our eyes in the fading light to catch a glimpse of this elusive bird. 'There!' - the cry went up as one eagle-eyed searcher spotted a fantastic male gliding and banking erratically from one perch to another, flashing his white wing and tail patches, and looking very handsome. Then came the rattling 'churr' again. Chris explained how the birds would sing from one perch, lying flat along the branch rather than across it, then move to another point and start again. We stood listening to the seemingly endless 'churr', waiting for the bird to take to the wing again. Not only did it do so, but was joined by a second bird, which appeared to be a female. Over the hour or so that we stood listening and watching, we had several sightings of sometimes one and sometimes two birds, and heard at least three or four individuals 'churring'.

As with so many nocturnal species, the Nightjar has many strange tales and beliefs associated with it. Perhaps the strangest is its old name of goat sucker, given because people believed that the birds were able to take milk from goats! This belief is even reflected

in the bird's scientific generic name of *Caprimulgus*, which comes from *capra* - a nanny goat, and *mulgere* - to milk. It also led to the names of Puck bird or Puckeridge, after the impish spirit of the night who was also alleged to be a milk snatcher. The modern name of Nightjar was standardised in 1843 and is taken from the bird's jarring churring song, which also led to the names of churn owl and wheel bird.

Whichever name you care to use, the bird is stunning both to see and hear, and we were very fortunate to be able to do both, thanks again to Chris for such a splendid evening.

As a short postscript to our super evening of Nightjars, on the drive back to Newton Stewart we were treated to a brief but beautiful view of a Barn Owl, floating along the side of the road in their usual ghostly fashion. A lovely end to the evening.

ON THE WAY HOME - FRIDAY

On Friday we drove to Brighouse Bay, which we had been told was a site for Perennial Flax *Linum perenne*. It is a lovely area and there were fields of blue Flax, as well as other interestiong plants, including Prickly Saltwort *Salsola kali ssp kali*. Butterflies were enjoying the sunshine - Painted Lady, Common Blue, Ringlet, Red Admiral, Large White, Small Copper and Large Skipper, mostly on Hemlock Water Dropwort. Whitethroats were singing happily around the car park.

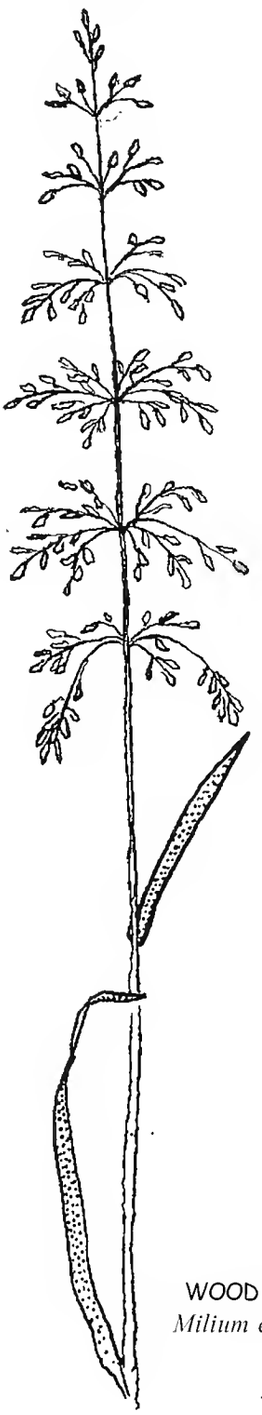
We moved on, intending to hunt for Dragonflies, at White Loch. Unfortunately, seriously heavy rain led to a unanimous decision to have a quick picnic and head for home.

A HAPPY MEMORY *Eileen Perry*

On our way back from the Mull of Galloway we visited the beautiful garden of Ardwell House. The sun was shining, and there were hundreds and hundreds of Painted Lady Butterflies on clumps of Thyme. They were a new hatching and made a lovely picture.

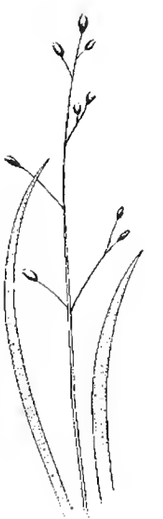
KNOW YOUR GRASSES

The ones we saw at Roslin Glen



WOOD MILLET
Milium effusum

WOOD MEADOW GRASS
Poa nemoralis
(sometimes known as Heil Hitler Grass)

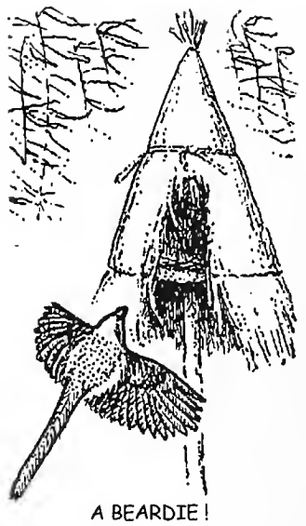


WOOD MELICK
Melica uniflora

ARNSIDE

8 - 10 October 2004

LEIGHTON MOSS & AREA
REPORT from the SQUAWK-MOBILE
aka WHEELCHAIR WAGON


A BEARDIE !

Our weekend visit to Arnside, on the River Kent estuary looking across Morecambe Bay, was blessed with good weather, if a tad cold at times. We visited Arnside Knott, Leighton Moss and Gait Barrows.

The weekend started on **Friday afternoon** at Arnside Knott, which lies within the Arnside/Silverdale Area of Outstanding Natural Beauty (AONB) and is known for its outstanding views over Morecambe Bay to the Lake District Fells. I must thank Jill Smith, Secretary of the Arnside NATS, and other members, for all their hospitality and help over the weekend, and Jill for leading the group round the Knott. An early item of interest was the Earthstar, believed to be *Geastrum triplex* in her garden. On the more exposed heathland of the Knott a thin layer of boulder clay in places overlays the natural limestone, thus giving rise to the phenomenon of lime-loving and lime-hating plants growing side by side. Though there was little to be seen at this time of year of the many wild flowers which grow there, Common Centaury *Centaurium erythraea* and Fairy Foxglove *Erinus alpinus* were found. A number of fungi were seen in the grass, mainly *Hygrocybe* and *Clavaria* or *Clavulinopsis;* and three Butterflies - Red Admiral, Speckled Wood, and Wall Brown - and an Angle Shades Moth were noted.

And now to the birds. The first thing we noticed was a small flock of Fieldfare flying over. We were surprised at their early arrival; so much so that we weren't sure it was Fieldfare and they were gone so quickly ; but we got proof later on in the weekend. We saw a collection of small birds - Blue, Coal and Great Tit, Goldcrest and Robin. Also noted were Blackbird, Crow and Rook, and we heard Tawny Owl and a Jay.

On **Saturday**, we visited the Leighton Moss Reserve, owned by the RSPB, which is a Site of Special Scientific Interest (SSSI) and a Wetland of International Importance under the RAMSAR Convention (1985). Leighton Moss is the largest area of reedbed remaining in north-west England, and has Bittern and Bearded Tit. Morecambe Bay is the second most important estuary in the UK, holding on average a quarter million ducks and geese in winter; and saltmarsh pools attract large flocks of wintering wildfowl, migrating waders and breeding Avocet.

We met at the car park adjacent to the RSPB's shore hides overlooking the saltmarsh, with an RSPB volunteer as our guide. On the path to the first hide, we had superb views of Goldfinch sunning themselves on Hawthorn bushes; there were also Greenfinch, Chaffinch, Goldcrest, Dunnock and Blue Tit, a lovely wee flock of Twite flitting about over the field, and some (not counted) Greylag Geese. This path and the two hides along it are described as having suitable access for the disabled. Well, we soon discovered this not to be the case. With Grace, leg in plaster, in a wheelchair, it was no mean feat pushing her along a loose gravel path, not to mention up the steep incline to the hide. Just as well we all have a sense of humour, although I hope not too many other birders saw us falling about with fits of the giggles - most unseemly on an RSPB reserve!

On arrival at the Allan Hide, we were told there was a Little Egret around. It was not difficult to find: brilliant white against the dull grey/green of the marsh, and not so rare at Leighton Moss these days, wintering birds have been recorded for some years. From here we also had views of Bar-tailed Godwit, Curlew, Greenshank, Redshank, Peewit, Wigeon, Shoveler, Teal and a Heron. We then moved on, more hilarity on the way with the wheelchair, to the Morecambe Hide, named after Eric - a keen birdwatcher who hailed from these pairts. Here we had a wonderful view of a Merlin sitting on a fence post, a lovely Spotted Redshank, Snipe and Mute Swan. And last, but certainly not least, a few people saw a Kingfisher posing on a branch round the side of the hide; regrettably it was not seen by everyone.

Returning to the Visitor Centre at lunchtime, we had a rare old time at the feeders by the car park. Pretty amazing really - eating lunch AND watching Nuthatch (squawk), Marsh Tit (bigger squawk), Goldfinch drinking from the nearby burn, Blue and Long-tailed Tit. We eventually tore ourselves away from the Marsh Tits and moved on to Lilian's Hide where we added Gadwall, Coot, Moorhen, Mallard, Black-headed Gull, Cormorant and Magpie to the list, and had Snipe zigzagging over the reeds. Onwards to the Tim Jackson Hide with a Buzzard and Red Deer - stag and hind - dozing on a sunny bank; and at the Griesdale Hide, we had Canada Geese, Wigeon in eclipse, Starling and Black-tailed Godwit.

We returned to the Squawk-mobile, by now renamed the Wheelchair Wagon, (the occupants on this holiday being me driving, Natalie, Grace and Molly) and drove round to the Causeway and Public Hide. The late afternoon sun lit up the reedbeds beautifully as we walked along the Causeway, with small flocks of winter Thrushes flying over us. At the hide, we had the telescopes trained on a male and two female Pintail (yes, you've got it, my favourites!) with Gadwall,

Pochard and some Tufties, when that now easily-recognisable (but discreet I hasten to add) squawk from Nat resounded round the hide: whoopee and triple whoopee, a Bittern sunbathing right on the edge of the reeds. He (or was it a she?) sat there for about half an hour - we just couldn't take our eyes off him. What a feast! Eventually he disappeared into the reedbed and we retreated, four happy bunnies, back to the car, and home. Well after that excitement, we just HAD to go back to see him again on Sunday and, of course, we still had to find a Beardie!

Sunday came and what a cracker of a morning it was: clear blue sky and sun blazing down on us. Straight back to the Causeway we went, all expectant for a Beardie and, fingers crossed, another Bittern. It was quite an extraordinary morning. The excitement started at the road end of the Causeway, in a lovely sheltered corner by a cottage, with a Southern Hawker Dragonfly basking on Ivy; and Common Darter in the hedgerow, joined by Speckled Wood and Red Admiral Butterflies; and finally a definite squawk-worthy Comma, all sitting around waiting for us to take photos. This is autumn, isn't it? It's October, I thought. And when a Chiffchaff started to sing in full voice, followed by a Blackcap, I decided I knew what people meant by Indian Summer, or should it be Indian Spring?! But then I was quickly put into a state of confusion when I realised that all this time we had also been hearing, and now saw, droves and droves of Redwing and Fieldfare flying overhead. Strange things are happening these days!

This took over an hour, and we decided we'd better get a move on. So we went on our merry way, three women and a wheelchair, towards the Public Hide, stopping several times on the path to listen and look for the illusive Beardies. We caught up with some other birders and were busy talking to them, asking what each other had seen, when something caught my eye flying low over the reeds: no, not a Bearded Tit, more like a Heron ... but the wrong colour. A Bittern. Two in less than 24 hours!! The heartbeats had barely got back to normal when I suddenly heard a 'ping'. My eyes swivelled to where the noise was, and there it was, diving down below the reed heads - our Beardie. We saw them again two or three times, only brief glimpses, but I was quite content with that; the main thing was we saw them. Well, after that, we didn't have much time in the hide - no more posing Bittern, but we did see a Buzzard and a lovely Great Spotted Woodpecker sitting on a tree; and more of the usual suspects on the water.

The Arnside NATS had kindly offered to take us round Gait Barrows National Nature Reserve, owned by English Nature, with Charles Bromley Webb, a local botanist, leading our group. Under their auspices, we were very lucky to be able to explore a restricted part of the Reserve. At the centre of the Arnside and Silverdale AONB, the Reserve was established in 1977 to protect one of the most important areas of limestone pavement in Britain. The limestone was laid down over 300m years ago, and the pavements were smoothed by the scouring action of ice during the last ice age, 10,000 years ago. Rain water has since created the characteristic features of limestone pavements. Grikes are the deep fissures dividing the surface of the pavement into blocks, called clints; runnels are smaller gutter-like channels which drain into the grikes; and solution cups are isolated hollows on the surface of the clints. The pavements form unique conditions for plants. The deeper, shaded and humid conditions in the grikes are similar to those of a woodland floor, and Rigid Buckler Fern *Dryopteris submontana*, Hart's Tongue *Phyllitis scolopendrium*, Hard Shield Fern *Polystichum aculeatum*, Herb Robert *Geranium robertianum* and Lily of the valley *Convallaria majalis* all grow there. The shallower runnels support the rare Angular Solomon's Seal *Polygonatum odoratum* and Dark Red Helleborine *Epipactis atrorubens*. Trees scatter the pavements, mainly Yew, Ash and Hazel. They grow in the grikes, and have a very slow growth rate as a result of the restricted root growth and regular severe drought conditions, so forming a kind of natural 'bonsai' garden. Mixed woodland surrounds the pavements, with Oak and Rowan added to those above, and shrubs include Juniper, Spindle, Dogwood and Guelder Rose. Coppicing is now carried out to encourage plants such as Primrose, Cowslip and Violet; and Butterflies such as Duke of Burgundy, Pearl-bordered and the rare High Brown Fritillary.

A BITTERN!

As in the morning, there was a steady stream of Redwing and Fieldfare flying over, and we saw Chiffchaff, Goldcrest, Bullfinch and Robin. On our way back to the cars through a field, we had a super view of a Marsh Tit flitting about, feeding on Sloe; and not to be outdone, a Brimstone fluttered by to add to our Butterfly list. A Great Spotted Woodpecker also showed itself very well while we were watching the Marsh Tit. By the way, if anyone ever says to

you it's impossible to get a wheelchair, with occupant, over a limestone pavement, tell them to come speak to Nat and me and we'll put them straight!

The weekend concluded with a walk on the geological trail, along the shore from the Arnside Promenade. Here is an area of Carboniferous limestone, a sedimentary rock formed from the remains of organisms, corals, shells and sea-lilies, which accumulated in an extensive warm shallow sea. Along the cliff one can see the tilting, folding and fracturing which occurred when the rocks were uplifted by mountain-building forces during the Carboniferous Period. A happy hour was spent fossil hunting; sadly, no Hugh Miller fish!

Although the official ENHS weekend had come to an end, some of us had booked an extra night, thinking the weekend was over three nights, not two. We spent most of **Monday morning** back at the Public Hide and my list for the morning was Coot, Moorhen, Tufted Duck, Pochard, Heron and a late, solitary Swallow buzzing over the water. We hadn't visited the Lower Hide, a bit further on from the Public Hide, and on our way there we had Bullfinch and Pheasant, and from the hide we saw Pintail, Gadwall and a Kestrel. We didn't see anything more of the Bittern or Bearded Tits, but lunch at the RSPB Centre car park feeders produced Nuthatch and Marsh Tit again. Before heading homewards, we had a quick visit to the AONB office/centre at the old railway station in Arnside. Well worth going in, with tons of leaflets and information on the area.

That concluded a brilliant holiday - apart from the journey home, taking six hours, because the motorway was completely closed just north of Carlisle. A magical mystery tour ensued - my thanks to Molly and Grace for navigating and keeping me sane! An especial thanks to the Arnside NATS for their hospitality. And thanks, too, to the Excursion Committee - I wait with baited breath to find out where we'll be going next autumn?

Joanie Fairlie with additions by Andrew Gilchrist

AND ON SUNDAY MORNING

Sunday morning being scheduled as free time, the party split into three groups for a few hours.

ROANHEAD/SANDSCALE HAWS FOR BOTANY

Roger Holme and Jeff Waddell were up at the crack of dawn and by 8am were botanising at Sandscale Haws just north of Barrow-in-Furness, while the rest of the members were enjoying their cooked breakfasts and Sunday morning lie in! Sandscale Haws is a superb area of rich calcareous dunes with extensive dune slacks and some adjacent wet meadow habitat. Several interesting plants were still in full flower; these included: Sea Spurge *Euphorbia paralias*, Portland Spurge *Euphorbia portlandica*, Sheep's Bit *Jasione montana*. Round-leaved Wintergreen *Pyrola rotundifolia*, Grass of Parnassus *Parnassia palustris*, Knotted Pearlwort *Sagina nodosa*. Blue Fleabane *Erigeron acer*, Autumn Hawkbit *Leontodon autumnalis* and Sea Rocket *Cakile maritima*. The whole area is heavily populated by the Willow *Salix repens var argentea,* distinguished by very downy leaves giving it a vivid silvery appearance. There were also large numbers of *Hygrocybe* species fungi, Giant Puffballs, and a Fox Moth larva.

Roger Holme

AND THE FOSSIL GROUP

Our particular sub-group elected to do a shore walk, starting at Arnside and progressing towards Silverdale. As it transpired, there was such a wealth of fossils to be seen that not much distance was covered. It was a fine sunny morning, and although decidedly chilly on the beach, this proved no deterrent to the many anglers who were holding a competition on the shore. This part of the coastline has many superb outcrops of limestone. These were laid down in the shallow tropical waters of the Lower Carboniferous and are rich in fossils. We found a wealth of good specimens of the main types including:
Horn-shaped Solitary Corals; sea-shell-like *Brachiopods;* stem sections of *Crinoids* (Sea Lilies); *productoids*, which are delicately fluted little hemispheres; and also examples of fan-shaped colony corals. As a bonus, we found that these fossils gave good photographs.

We were surprised (but shouldn't have been) to find patches of Common Cord-grass *Spartina anglica*, in full flower. Sadly, although we were at the locality, we did not spot the Maidenhair Fern *Adiantum capillus-veneris.*

John Watson

AND IN THE AFTERNOON .....

Gait Barrows is renowned for its large expanse of limestone pavement and Charles explained how most of the pavement had been quarried relatively recently, for people's gardens, leaving a largely flat area of smooth limestone creating a completely different habitat. This has encouraged other lime-loving plants, ones which do not grow in the grikes of the pavement, such as the unusual biennial Ploughman's Spikenard *Inula conyzae*. There were also some interesting trees which are not frequently seen in the wild in Scotland, including a superb fruiting Spindle *Euonymus europaeus*, Alder Buckthorn *Frangula alnus*, Purging Buckthorn *Rhamnus cathartica* and Hornbeam *Carpinus betulus*. We explored the main limestone pavement, peering with great delight into the grikes, looking for unusual plants. We found a few strong specimens of Dark Red Helleborine *Epipactis atrorubens*, Dropwort *Filipendula vulgaris*, Pale St. John's Wort *Hypericum montanum*, Angular Solomon's Seal *Polygonatum odoratum* and Hemp Agrimony *Eupatorium cannabinum*. Nearby, Betony *Stachys officinalis* was in full flower. Afterwards Charles took us to see the Maidenhair Fern *Adiantum capillus-veneris*, growing on a small cliff near to the promenade in Arnside.

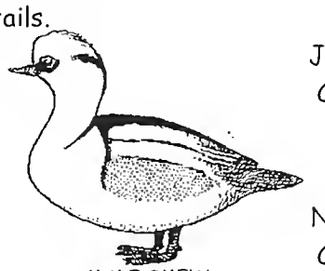
Roger Holme

OBSERVATIONS 2004

Splendid blossom in the spring was followed by an indifferent summer, with an exceptionally wet August. As a result of last summer's ripening heat, there is a bumper crop of berries and nuts. MR

JANUARY

	Stonechats present throughout the winter in Holyrood Park.	NT
1st	2 Fieldfares in my back garden, Kirkliston.	RH
4th	Male Smew at Portmore Loch.	BC
5th	A Heron chased by six Herring Gulls flying the length of Clark Road, Trinity. They flew over Heriot's grounds towards the Water of Leith.	LB
6th	3-foot Porpoise (dead) on shore at North Berwick.	MT
10th	Female King Eider, Leven.	BC
10th	Male Surf Scoter at Ruddons Point.	BC
13th	ca 100 Wigeon, resting, some grazing, Levenhall Links.	CR
14th	31 Cormorants at Gladhouse, many of them perched in a skeletal Pine splattered with droppings on the most southerly island.	NC
17th	Sparrowhawk seen passing No. 35 Comely Bank Road.	CR
20th	A pair of Mandarin ducks at Gladhouse.	NC
20th	In the last week the pre-breeding flock of Lapwing in the fields around Moorfoot Farm has increased to 110.	NC
22nd	Peregrine over Levenhall Links hide. Mediterranean Gull on pond, Levenhall Links. Smew, 1 female, Duddingston Loch.	CR
24th	Merlin seen passing No. 35, Comely Bank Road.	CR
24th	Mediterranean Gull at Musselburgh.	BC
26th	While crossing the Meadows to Buccleuch Place - Common Gulls, about 100 Redwings, a few Chaffinches, a couple of Treecreepers and a family of Pied Wagtails. Some Daisies in flower and some early Council Crocuses.	JM
29th	Peregrine over Rose Garden, Inverleith Park.	CR



MALE SMEW

FEBRUARY

1st	Flock of over 80 Siskins near Dunsapie Loch, Holyrood Park.	NT
2nd	2 Stockdove in Rose Garden, Inverleith Park.	CR
8th	Shore Lark, Tyninghame.	BC
9th	Unusual Cormorant- *Phalacrocorax carbo c. carbo. sinensis.* Our Cormorant is *P. carbo c. carbo.* *'Sinensis'* has plumage glossed dull green, throat whiter, and hair plumes over crown to back, and sides of neck silvery-white. Sighted near Isle of May on camera. This is a subspecies from Eurasia.	MT
10th	First Gannet landed on Bass Rock.	MT
11th	Peacock Butterfly flying near Holyrood Palace.	NT
11th	Bumble Bee queen in garden. Temperature 13C.	MR
13th	Bottle-nosed Dolphin , East Bay, North Berwick.	MT
14th	Queen Wasp on kitchen window.	MR
14th	Great Northern Diver at Aberlady.	BC
15th	Group of Harbour Porpoises sighted, North Berwick.	MT
16th	20-30 Harbour Porpoises swimming up the Forth, seen from Seabird Centre, NB	MT
18th	Tortoiseshell Butterfly on yellow Crocus on a sunny afternoon.	MR
19th	Hundreds of Gannets on the Bass.	MT
20th	58 Curlew on Edinburgh Academy Sports Ground, Raeburn Place.	CR
23rd	A spectacular drake Smew at Gladhouse: suspicion that it had come from Portmore Loch where one had been reported earlier in the winter.	NC

25th The sandstone walls at the base of the Edgelaw reservoir spillway festooned with many square metres of Hart's Tongue Fern. NC

29th Little Auk seen from boat, North Berwick. MT

MARCH

March - Regular visits of Yellowhammers (up to 5) in my back garden, Kirkliston. RH

1st First Lesser Black-backed Gull of the year. CR

Golden Plover, southern race on Edinburgh Academy Sports Ground, Raeburn Place. CR

2nd An all-white Squirrel in garden at Fairmilehead. This has been seen here regularly, with two Greys, since October, 2003. MJ

3rd Little Grebe swimming near cafe rocks at Scottish Seabird Centre, North Berwick. MT

4th Scarlet Elf Cups *Sarcoscypha coccinea* in abundance, Tyne Valley Woods at Vogrie CP. NC

5th My first 'yaffling' Green Woodpecker of the season at Woodhall Dean. NC

7th 1st winter male Smew on Duddingston Loch. NT

9th Families of Long-tailed Tits in Blackford Glen. A Mink in burrows between the 2 surviving quarries (hunting rabbits?). Giant Butterbur *Petasites japonica* in good flower. MC,JM

9th Whimbrel seen on Fidra camera, Seabird Centre, North Berwick. MT

13th Surf Scoter, (female) and 1 pair of Velvet Scoter on sea wall, Firth of Forth, Musselburgh. CR

13th Last sighting of Redwing, foraging with Starlings on the Links, W of Whitehouse Loan. Two Pied Wagtails and a Tree Creeper. JM

13th Pair of Siskin on peanut feeder in my back garden. RH

19th First Puffin, Isle of May. MT

25th 1 Redshank on exposed stone, Inverleith Park. CR

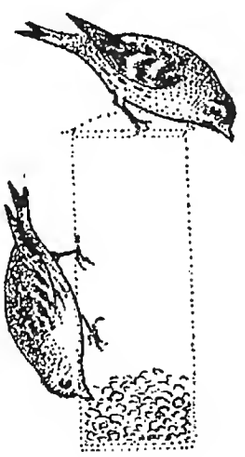
26th Peacock Butterfly fluttering on window inside my garage at Fairmilehead. MJ

27th Peacock Butterfly and 7-spot Ladybird in garden (a sunny morning) and several Bumble Bee.
Flock of Pinkfoot Geese flying WNW at 5pm. MR

28th Cherry Laurel *Prunus laurocerasus*, flower spikes opening, in sheltered parts of Rose Garden, Inverleith Park. CR

31st At Milkhall pond the toads were all in amplexus, frog spawn lay deep in all the ponds and the Otter spraints were full of amphibian bones! NC

31st Merlin, Isle of May. It stayed for a few days. MT



SISKINS

APRIL

3rd A marvellous bank (30-40 metres in length) of *Viola odorata*, beside a burn west of Torness. Fox Moth caterpillars and 1 pupa found, from which a Small Elephant Hawk Moth emerged on 7th May. Lesser Chickweed *Stellaria pallida* found in sandy area near Rabbit burrows. A Stoat carcase found near gorse bushes with hole in pelvis; thought to have been shot - yellow cartridge case found nearby. Barn's Ness Outing. MR

8th 1 Common Tern, 3 Sandwich Terns - first of 2004 - flew in East Bay, North Berwick. MT

9th Peacock Butterfly and 2-spot Ladybird in garden. MR

10th Atholl Woods, Dunkeld, NATS Outing. Early migrants seen: Chiffchaff, Sand Martins and 5 Swallows. Extensive area of Juniper shrubs noted. MR

10th First Chiffchaff singing at Wells o' Wearie, also Palmate Newt and 3 Peacock Butterflies. NT

19th Pine Marten crossing road by Loch Laggan. AG

23rd First Swallow, North Berwick. MT

24th Masses of Field Vole skulls (identified by Elizabeth Farquharson) below the Barn Owl nest at Crichton Castle (see Excursion). JM

25th	1st Gonnet egg on Bass Rock ond 1st Shog's egg seen on Isle of Moy.	MT
28th	In Roslin Glen, Toothwort *Lathraea squamaria* on Hozel; o Commo Butterfly on Bromble.	LB
29th	Slug *Limax maculatus* under wood, Inverleith Park.	CR

MAY

1st	Aberfoyle Outing. Tree Pipit on disploy fight; 2 Stonechots on rough grasslond; 2 poirs of Goosonder on River Forth. Oak Maze Gill fungus *Daedalea quercina* smothering o tree stump.	MR
3rd	Small Tortoiseshell, Burnmouth-Eyemouth.	LB,EG,SS
5th	3 Dotterel at Tyninghame.	BC
9th	Red-bocked Shrike, Born's Ness.	BC
	Pied Flycotcher, Barn's Ness.	BC
11th	Wolking on Blackford Hill, we easily locoted 4 of the sites where Sticky Cotchfly *Lychnis viscaria* wos plonted in 2003. We found 14 plonts, 5 with flower buds.	LB,MP,SS
15th	Ston de Proto identified 8 Worblers on NATS Outing at Hadfost Reserve. These included o Lesser Whitethroot, Grosshopper Worbler ond Garden Warblers.	MR
17th	2 Swifts flying west over Edinburgh; there ore fewer eoch yeor	MR
21st	Brent Goose, Cromond.	BC
23rd	Manx Shearwater, Arctic Tern, Osprey seen from boot, North Berwick.	MT
23rd	Neor Whiteodder Reservoir, sloughed skins of Adders, o Common Lizord ond the omozing Gorden Tiger *Arctea caja* coterpillor. (See Photo Pages)	
	Lots of Lesser Woter Porsnip *Berula erecta* in the river.	JM

JUNE

5th	Jeff Woddell in conjunction with Keith Bland has identified the infestotion which caused the stripping of a lorge Hawthorn hedge in Kirkliston os o lorge colony of the lorva of Orchard Ermine *Yponomeuta padella*, a micro moth.	NC,RH
6th	Peregrine chick on Fidra.	MT
6th	A rare sight for the Lothians : a cock Pied Flycatcher ot Erroid Wood, singing for a couple of hours.	NC
9th	Migront Painted Lady Butterfly in garden. Blue Tit fomily ot bird feeders.	MR
14th	Coal Tit family at bird feeders.	MR
17th	Badger with a fluffy white toil in gorden, 10.40pm.	MR
19th	Over 60 vivid spikes of Northern Marsh Orchid olong the Cockmuir verge in the extreme south of Midlothian.	NC
20th	Amongst several neophytes olong the S.Esk at Arniston, the first Lothian record of *Rodgersia podophylla.*	NC
22nd ond 23rd	Cold, wet miserable weother, with NW gole-force winds and continuous rain, resulting in flood wornings. Turn on the centrol heating!	MR
	Foxes - 2 cubs and 2 adults - seen in gorden, lote evenings.	MR
26th	4 young Kestrels in nest by Threipmuir reservoir, Pentllands.	AG
26th	By chonce I sow o Field Mouse climbing up to the bird table. It leaped across to the peanut box where it feosted for about 10 minutes ond returned later.	MR
28th	Painted Lody Butterfly sunning itself on a wall.	
	3 kinds of Bumble Bee seen on garden flowers.	MR

JULY

2nd	Gannet with 2 eggs on Bass; it subsequently reared both chicks - very unusual!	MT
4th	Fungus Outing to Harestanes - Wintergreen *Pyrola minor* flowering. Nuthatch heard.	MR,JeM
8th	Lesser Sand Plover, Aberlody.	BC
9th	Grasshopper Warbler 'reeling' on Crow Hill, Holyrood Pork.	NT
10th	Gullone Outing. Greater Knapweed *Centaurea scabiosa;* Nodding Thistle *Carduus nutans;* Rough Hawkbit *Leontodon hispidus.*	MR

15th 2 Pectoral Sandpipers., Musselburgh. BC
17th Comma Butterfly at The Hirsel in Brambles. AG
17th Sighting of the Comma Butterfly was made during a recce to Wallace's Cave. It was feeding on Knapweed. JW
18th Swift migration under way on a clear bright day with a strong SW wind. MR
19th 1 Porpoise and calf chasing mackerel near Bass Rock. MT
24th 5 Curlew Sandpipers at Musselburgh. BC
26th. A large hatch of Brown China Mark moths, *Nymphula nympheata* had their hatching peak at Milkhall Pond this week. NC

COMMA BUTTERFLY

AUGUST

1st Garden Tiger Moth at Silverburn on Gorse. AG
4th Arctic Skua flew over East Bay, North Berwick. MT
17th In Winton House grounds, Ormiston: Musk Mallow *Malva moschata*; Betony *Betonica officinalis*; Black False Helleborine *Veratrum nigrum*; Swamp Cypress *Taxodium disticum*; *Gingko biloba*, a large specimen. MR
29th Several Peacock Butterflies and a small brown Dragonfly (unidentified) in garden. MR
31st - 9th September Comma Butterfly daily on Scabious in garden in Swanston. AG

SEPTEMBER

Tawny owl, juvenile, breast feather caught on wire fence of the allotments, Inverleith Park. CR
1st 2 Whimbrels on Eyebroughty. MT
5th The Alders beside the burn at Maggie Bowies Glen were overrun with the green Chrysomelid beetle *Chrysomela aenea*. NC
8th Many old females amongst a few dozen Common Darters at Aberlady: translucent grey with red blemishes. NC
12th At Hopetoun, I found 2 *Hygrocybe calyptiformis* on the north bank above the West Lawn. MR
18th 2 Swallows seen - the last of 2004, North Berwick. MT
22nd First Geese of winter seen at 8.30am. MR
25th RSPB Forth Valley Group visiting Skinflats and Kinneil Kerse, saw group after group of Gannets flying westwards. It is most unusual for Gannets to be seen west of the Bridges. Where were they heading? CS
26th A beautiful pristine Red Admiral Butterfly in garden, the first seen here all summer. MR
30th Water Chickweed *Myosoton aquaticum* in shade on railway line, Blackhall. It has 5 styles, whereas *Stellaria* has only 3. MR

OCTOBER

3rd Ring-necked Duck, Vane Farm. BC
3rd Purple Milk-vetch *Astralagus danicus* in flower at Barn's Ness (Fungus group). MR
6th First Grey Seal pup born, Isle of May. MT
7th Barn Owl flew over car on A701 at Roslin roundabout. NT
13th 2 Jackdaws (one a juvenile), Edinburgh Academy Sports Ground. CR
15th The entry fee to Abbotsford was worthwhile : the lawns were brightly peppered with the fruiting bodies of many Waxcap species. NC
16th My first Whoopers of the winter at Gladhouse : twelve, but no cygnets. NC
16th 4 Buzzards over Hopetoun; and a Jay in the parkland.
Fungus finds - *Agaricus vaporarius*, 2 very good specimens of *Helvella crispa*, and whole circles of *Hygrocybe calyptriformis*, which is exceptionally good this autumn on the East Lawn. MC,MR
17th Two crows foraging and dodging the traffic in Warrender Park Road, one a normal Carrion Crow, the second a Hoodie (or possibly a hybrid but with the distinctive grey and black patterning). JM

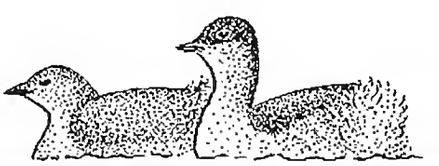
21st	2 Long-eared Owls, many Goldcrest ringed on Isle of May.	MT
25th	Tawny Owl heard, Edinburgh Academy Sports Ground.	CR
28th	A few Gannet chicks still on Bass.	MT
29th	Green-winged Teal, Vane Farm.	BC
	Black Redstart, Fife Ness.	BC
31st	Masked Shrike (First for Great Britain) at Kilrenny.	BC

NOVEMBER

	Mid-November and throughout December, my Nuthatch is back. (Journal2003, Page 6)	JeM
	Daily visits of 4 Goldfinches after putting out Nyjer seed feeder in garden, Kirkliston.	RH
2nd	A Field Mouse (the same one as 26th June?) at the peanut basket for about 30 minutes.	MR
3rd	Peacock Butterfly in garden. Bright sunny morning. temperature 14C.	MR
7th	At Harlaw with fungus Group. *Clavariadelphus fistulosus* - a rare Club Fungus on wood; *Volvariella speciosa* - on field of Rape.; *Pseudohydnum gelatinosum* - an uncommon Jelly Fungus, a very handsome specimen.	MR
10th	A flock of 20+ Fieldfares invaded the garden for the Rowan berries.	MR
14th	Queen Bumble bee on Feverfew flowers. Temperature 11C.	MR
18th	All Gannets gone from Bass.	MT
19th	First frost of winter in Edinburgh area.	MR
21st	Black-throated Diver on boating pond, Musselburgh.	BC
25th	Juvenile female Black Redstart on yacht park near Seabird Centre, North Berwick.	MT
26th	Little Auk on sea, near Seabird Centre, North Berwick.	MT

DECEMBER

2nd	2 Peregrine on Fidra.	MT
5th	Grey Wagtail and Grey Heron in Ravelston Wood Pond.	MR
7th	Peregrine flew over Edinburgh Academy Sports Ground, going SE, seen from No. 35, Comely Bank Road.	CR
7-9th	3-10 Dolphins seen from viewing deck, Seabird Centre, North Berwick.	MT
9th	2 Peregrines swooped and dived low over boating pond, North Berwick; one picked up a Turnstone.	MT
9th	Barn Owl on roadside fence of A7 just south of Midlothian border near to midnight.	RH
14th	1 downy chick still on Bass. Woodcock, too. 7 Purple Sandpipers, East Shore, NB.	MT
15th	I discovered the first Snowdrop in the garden, one of the broad-leaved variety.	MR
24th-31st	Juvenile female Black Redstart near Seabird Centre, North Berwick, on rocks.	MT
26th	On Boxing Day there was a large flock of Scandinavian Thrushes feeding on Holly and Rowan berries in Mary Erskine school grounds, by the path leading to Ravelston Dykes. In Strachan Road, Blackhall, a much smaller flock was feeding on Whitebeam berries.	MR
26th	Little Egret, Vane Farm.	BC
27th	Several Goosanders, a pair of Little Grebe and two Dippers on the Tweed. Peebles Outing.	MR
30th	1 Pipistrelle Bat flying around in Juniper Green trying to feed – very unusual for this time of year, as Bats should be elsewhere hibernating; this is a reflection of the very mild weather that we have had so far this winter. (p.s. this comment is identical to that I made last year on finding Bats in boxes when they shouldn't be. Is this a reflection on the changes in our climate?)	NT



A PAIR OF LITTLE GREBES ON THE TWEED .....

LB	Lyn Blodes	MC	Mory Clorkson	BC	Bill Clunie
NC	Neville Crowther	AG	Alison Gemmell	EG	Ena Gillespie
JeM	Jean Murray	JM	Jockie Muscott	RH	Roger Holme
MJ	Margaret Jomieson	MP	Morgoret Perry	CR	Chorles Rowcliffe
MR	Mory Robertson	CS	Connie Stewort	SS	Sondro Stewort
NT	Natalie Toylor	MT	Mory Tebble	JW	Jeff Woddell

WINTER TALKS

25th February

ARABLE WEEDS IN DECLINE *Heather McHaffie*

There are some pioneer species of plants that typically grow in disturbed habitats such as river margins and strand lines. These are the plants that have benefited from the open ground created by agriculture. More species were brought in mixed with the seed of crop plants, and these are usually Mediterranean in origin. However, over thousands of years they have evolved and are now adapted to our local climates. Many species such as Poppies and Cornflowers, which were probably originally introduced, are now part of our flora and we think of them as typical arable weeds. Fumitories are found in good weedy fields and are themselves a mixture of native and introduced species. One particular species, the Purple Ramping-fumitory *Fumaria purpurea* is only found in the British Isles. It has evolved from a hybrid between the native Common Ramping-fumitory *F. muralis* and the probably introduced Common Fumitory *F. officinalis*. Normally hybrids are sterile but this plant became a species through chromosome doubling. We do not have many endemic plants, so the Purple Ramping-fumitory is especially interesting. Unfortunately as an arable 'weed', it depends on having a disturbed habitat as it cannot compete with taller vegetation. As with many arable species, the seeds are long lived and can exist for decades, until the soil is turned over and they have an opportunity to grow. Poppies behave in a similar way, with long-lived soil seed banks.

Before the 20th century there were mostly only mechanical methods for cultivating the ground. Many weed seeds were harvested with a crop and resown into the new crop. But as seed cleaning was improved this source of seed declined, and some plants like Corncockle *Agrostemma githago* were less able to survive in the soil, and have almost disappeared in consequence. After the Second World War there was a steady increase in the use of artificial fertilisers. With the breeding of improved crops requiring high levels of fertiliser, a shorter denser stand is produced which is less favourable to the weeds that prefer a lower nutrient level. With increased amounts of autumn sowing, the crop is also frequently too dense for the annual weeds to compete. Combined with increasingly effective herbicides it is possible to eliminate most of the weed species almost totally. As any gardener knows, weed seeds can last a long time in the soil, but more than fifty years after these major changes were initiated, time might be running out for the seed banks.

When a pile of earth is abandoned for a few months it quickly becomes covered with a variety of weeds. The range of weeds depends on the past history of the arable ground. If it has been regularly treated with herbicide there might be fewer weeds than in a field that has not been cultivated for some time. A newly exposed seed bank from several decades ago can be an exciting glimpse into past floras with a wider range of weeds than are more usually found. The declining abundance and variety of weeds does not only mean that our flora is depleted, but there are subsidiary effects. The invertebrates lack food plants, so there are fewer butterflies and moths. The chicks which eat the invertebrates, and the seed-eating birds all have a greatly reduced food supply. Various agri-environment schemes are designed to provide set-aside areas that have abundant weeds, with short vegetation for nesting and longer weedy vegetation for cover and food. It is in these areas that the arable weeds will be able to thrive. They might never be so abundant again but should still be present to provide a link with our cultural heritage that extends back to the very first farmers in Scotland.

There will be two workshops in 2005 to provide the opportunity to become more familiar with our six Scottish species of Fumitory. There will be one in Edinburgh on the 30th July and one at Vane Farm on the 31st July. If you would like to come please phone: 0131 248 2876 or email: **h.mchaffie@rbge.org.uk**

24th March

EVER-PRESENT BUT RARELY SEEN: FOCUS ON MICROFUNGI

Stephan Helfer, Royal Botanic Garden,Edinburgh, EH3 5LR

This lecture was an attempt to stimulate interest in a group of organisms which receives comparatively little attention, despite its enormous importance, ecologically and economically, botanically and medically. I argue that they are often over-looked because of their small size, and the associated difficulty in identifying them in the field.

What are microfungi? *The Dictionary of the Fungi* (Kirk et al., 2001) defines them as 'Micromycetes, fungi having small (microscopic) sporocarps [=fruiting bodies]...'. There is thus no systematic definition of this varied assemblage of organisms. They are defined by the need of the mycologist to use a microscope to recognise their fruiting bodies. As a consequence, they appear in all major divisions of fungi and fungus-like life forms – such as Ascomycetes and Basidiomycetes, but also the Oomycetes (downy mildews) and Myxomycetes (slime moulds).

There is no habitat, except extreme deep marine habitats, where microfungi do not play a role – sometimes a most important one. They grow on or in soil, plants, animals, food stuffs, dung, fresh or salt water; many of their live spores can be isolated from the air. They seem to be present everywhere on earth, even though they do not necessarily thrive everywhere (thank goodness!). By far the greatest number grow on living or dead plants (Ellis & Ellis, 1985), and many are very specialised on particular host species.

The importance of microfungi to human affairs cannot be over-estimated. Many, like the members of the Glomeromycetes, are partners in symbiosis with crop plants. Others are devastating pathogens – such as *Phytophthora infestans*, the late blight pathogen of potatoes; or *Puccinia graminis*, the wheat stem rust pathogen. In nature they fulfil an important role as litter decomposers, mycorrhizal partners, soil detoxifiers but also as plant disease organisms and seed destroyers. There are many highly specialised interactions between microfungi, plants and animals, without which our environment would look very different.

Being of great biological diversity, microfungi come in a plethora of colours and shapes and a variety of sizes – all of course being very small. The slime moulds particularly, have very colourful and pretty fruiting bodies, and many of the rust and smut fungi have fascinating spore shapes. Others, such as the Glomales appear to be mostly the same morphologically. Like all living organisms, microfungi are dependent on appropriate environmental conditions to thrive. Their ecological amplitude may be large – as for the yeast *Saccharomyces cerevisiae*, or narrow – as for the rare rust fungus *Puccinia walsteiniae*, which has only ever been found a handful of times. Whilst there is no red data book for microfungi, every plant and animal conservation measure should take account of these essential components of all ecosystems.

Next time you go out to collect or document organisms for the Natural History Society, have a look-out for microfungi as well.

Dictionary of the Fungi Kirk, P., Cannon, P.F., David, J.C. & Stalpers, J.A. (editors) (2001) CABI Publishing, Wallingford.

Microfungi on Land Plants An Identification Handbook Ellis, M.B. & Ellis, J.P. (1985) Croom Helm, London.

22nd September

INSECT-PLANT RELATIONSHIPS *Keith Bland*

There are two major types of interrelationships between insects and plants: Insect-Plant relationships, where the insects are vital to the plants and Plant-Insect relationships where the plants are essential to the well-being of the insect. The former, which includes insects such as specific plant pollinators, was outwith the current talk,which concentrated on plants as substrates for insect herbivores.

For the first part of the talk examples were drawn from Moths. Essentially plants do not want to be eaten and many produce toxins to protect themselves from herbivores. Those larvae that develop tolerance to a plant's toxins tend to feed only on that specific species of plant. While feeding, larvae themselves risk becoming food, thus they use various protection devices to protect themselves:

1) Disruptive coloration i.e. breaking up their outline.

2) Camouflage i.e. looking like their background.

3) Distinctive coloration (red and black, or yellow and black) indicating they are distasteful to eat.

A less sophisticated way to avoid being eaten is simply to keep out of sight by living in a folded leaf, or a spun-together shoot, or using a bit (or bits) of dead plant material to hide within, so as not to appear edible (e.g. case-bearing coleophorid, psychids etc.) Ultimate protection is to live inside the plant. Insects such as leaf-mining moths, flies or beetles, which live inside the leaf-tissue, are well-concealed, but this strategy is limited to those of small size. If inside a stem or bud there is the 'healing' process or production of callous tissue to contend with, this is solved either by being present for only a short period or by eating the callous tissue.

Probably the most sophisticated development is the injection of a specific plant growth stimulant into the tissue when the female is inserting the egg. This induces abnormal growth (a gall) within which the larva develops. Examples of the diversity of the galls and their causers (gall-midges, gall wasps, sawflies, bugs, weevils, mites and fungi) were illustrated.

13th October

GALAPAGOS *Betty Smith*

A selection of slides taken by Bob and myself on short visits in April 1990 and April 1992 illustrated the talk.

Situated in the Pacific Ocean, mostly to the south of the Equator and some 500 miles west of Ecuador the islands are isolated. The barren nature of the volcanic origin of the archipelago brings home the realisation that the ancestors of all the plants and animals now living there must have arrived from elsewhere by swimming, rafting, flying or other means, often at the mercy of winds and ocean currents. It was stressed that once they had got there, they are still totally dependent on the winds and ocean currents, because of the effect these have on rainfall and marine life.

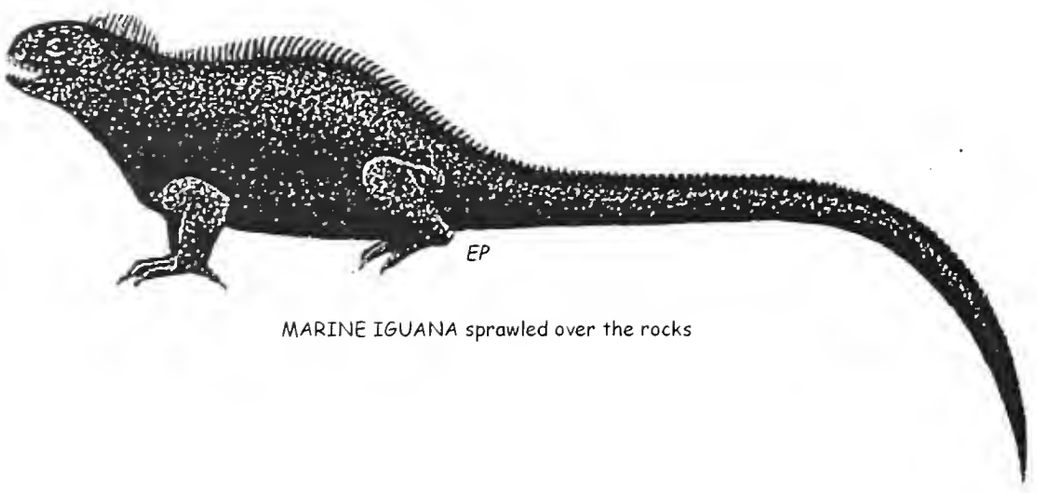
Normally the seas around the Galapagos are rich in fish and other marine life due to the south equatorial current bringing cold upwelled nutrient-rich water from the Antarctic. There is a warm wet season and a cool dry season Rainfall is normally very low but variable in the lowlands whereas at high altitude, during the cool season, there is a temperature inversion causing the south and east slopes of the high peaks to get mist and rain.

On some of the larger islands volcanic cones reach over 3000ft above sea level. Normally in April the arid lowlands are bare, while the highlands are covered with the lush vegetation; but during an El Nino year when the rainfall can be exceptionally heavy, vegetation flourishes in these self-same lowlands.

Life on an arid island is difficult at the best of times During an El Nino year the failure of the South East Trade Winds coupled with the exceptionally strong Nino Current flowing from the Panama Basin, so warms the surface waters of the sea that the fish vanish from the normally rich fishing grounds off Peru, and consequently from the Galapagos. Seaweeds, food of the Marine Iguana, the only sea-going lizard in the world, cannot thrive in warm water, so the Marine Iguanas starve. Sea Lions and Fur Seals cannot fish locally so they starve and cannot breed. Likewise the Boobies and all the other species that are dependent on food from the sea suffer. For all of them El Nino can be devastating. On the other hand, for the land plants and the animals that depend on them El Nino is the provider of plenty and they and the herbivores and the insects and the insect eaters thrive.

Charles Darwin, who visited the Galapagos in 1835, and collected specimens of all the plants and animals he found was struck by the slight but marked differences in the populations of the same or slightly different species on different islands. Subsequently these observations played a major part in his revolutionary theory published in his book *Origin of Species*. The driving forces of evolution are attributed to isolation and the survival of the fittest.

Abiding memories are of Marine Iguanas warming up sprawled over the rocks; Sea Lions lying on the sands; Sally Lightfoot crabs crowded on a rock waiting for the tide to fall; Green Turtle tracks in the sand; the Galapagos Gull with the white patch on its beak because it feeds its young at night; Opuntias flowering and fruiting after adequate rainfall; ..... and many others.



MARINE IGUANA sprawled over the rocks

17th November

THE ISLE OF MAY: Saints, Seals and Puffins

Theresa Alampo, SNH Warden

This island, lying at the entrance to the Forth Estuary, was designated as a National Nature Reserve in 1956 and is now a European and SSSI protected site. It is made of Greenstone, a hard volcanic rock and is only 1.5 kilometres long and 0.5 kilometres wide. Despite its small size, the May holds some spectacular seabird colonies and the largest Atlantic Grey Seal colony in Eastern Britain. The Reserve is managed by Scottish Natural Heritage (SNH) which employs two members of staff there to monitor cliff and ground-nesting birds, vegetation changes, erosion and much more.

The May is one of four strategic seabird-monitoring sites in Britain. It houses the oldest Bird Observatory in the country, established in 1934 and manned by bird-ringers at peaks of migration seasons. Studies are also carried out by the Centre of Hydrology and Ecology. The populations of some seabirds have been fairly stable over the past 10 years or so, and others, notably Shags, Kittiwakes and Razorbills are recovering from a decline that occurred in 2003. Overall, the productivity of the cliff-nesting birds was poor in 2004. Puffins, the birds that everyone comes to see, are enjoying great success. They form the largest single colony in Britain, having 68,000 breeding pairs in 2003.

Seals traditionally bred on the island, but were absent for many years until the 1950s. At present, the numbers increase to around 4000 individuals in the autumn, the cows giving birth to around 2000 pups in 2003. Observations on their habits are carried out by the Sea Mammal Research Unit. To add to the list of inhabitants is the Isle of May Mouse, a hybrid of the Field Mouse and House Mouse, and the subject of genetic research. The ubiquitous Rabbit was introduced in medieval times.

The main habitats for flora are the rocky reefs, packed with Wracks and Kelp, and maritime grassland supporting a typical range of plants. Enclosed gardens and ash heaps are found around the remnants of old dwellings.

Regardless of its isolation, the May has a long history of human activity. The name is thought to originate from the Norse word 'Ma-ey' meaning Gull. The earliest pottery artefact is dated at 4000 years. With the building of a chapel in the 7th century, it became a popular place of pilgrimage and known to many as the Holy Island. In the 16th century, the chapel was converted into a manor house; a village grew up around the house and existed well into the 18th century. A warning beacon for shipping was provided originally by a lit brazier. This was later replaced by the main lighthouse built by Robert Stevenson in 1816. The only lighthouse now in use was automated in 1989. However, the island still poses a hazard; as many as 40 wrecks lie around the shore, making this an ideal location for divers. During the World Wars, troops were stationed on the island, and in the present day, the naturalist has taken it over. Apart from the resident SNH staff and transitory researchers, the island attracted nearly 5000 visitors in 2004. It is open to the public from 1st April until 30th September.

SOCIETY'S EQUIPMENT

In addition to books held in the Library, the Society has various other items which can be borrowed by members for their private use, including LP records of birdsong with accompanying booklet, and a recording of Grasshoppers.

Needless to say, members will be responsible for the care of books and equipment on loan.

Telescope:	A Bushnell Spacemaster of 20x - 40x magnification, in carrying case and a car window-mount for in-car use. Apply to Molly Woolgar (Tel: 0131 667 2688)
Microscopes:	High and low power microscopes. Apply to Margaret Perry (Tel. 0131 447 3515)
pH Meter:	Apply to Elizabeth Farquharson (Tel. 0131 447 1994)
Mammal Traps:	Twenty-four small-mammal traps. Apply to Elizabeth Farquharson (Tel: 0131 447 1994)
Photographic slides:	A comprehensive slide collection left to the Society by Janet Raeburn. The subjects are mostly botanical but also include birds, mammals, butterflies and Scottish scenery. They are kept in the Library.
Bawsinch Key:	The Bawsinch Nature Reserve at Duddingston is managed by the SWT, who allow the Society to hold a key for members. Apply to Joanie Fairlie, Secretary Tel.: 0131 668 1470
Computer Scanner:	Apply to Sandra Stewart (Tel: 0131 441 2641)
Overhead Projector:	Apply to Betty Smith (Tel: 0131 440 0888)
Slide Projector:	Apply to Elizabeth Farquharson (Tel. 0131 447 1994)

ACKNOWLEDGEMENTS

The Journal Editors thank all the contributors for producing such a variety of articles. Special thanks go to Eric Perry and Jackie Muscott for producing all the lovely drawings.

The Journal Committee do a sterling job checking the proofs. Many thanks to them.

This year for the first time we have included a double page of photographs. We thank all the photographers who gave us photos. Unfortunately we could only use a few, because of limited space.

PHOTOGRAPHS

Page 1

All Dorothy Stuart

Page 2

Cree Valley is from Peter Hopkins; the others are Dorothy's

Page 3

Winton House - Dorothy
Tentsmuir, Cinnabar Caterpillar, and Comma Butterfly are all John Watson's

Page 4

Arnside - John Watson
Natalie
2 Orchid photographs - Roger Holme
Garden Tiger Caterpillar and Moth - Jackie Muscott
Field Mouse and Chaffinch - Alex Melrose, neighbour of Mary Robertson

CONTRIBUTIONS FOR NEXT YEAR'S JOURNAL

It is important to keep to deadlines. We have over 40 excursion reports and almost 40 other articles and short pieces. This year, too many came in to us in February - too late! It would be helpful if we received the excursion report very soon after the outing, please.

Please note that the last date for contributions to next year's Journal, of articles and summer excursion reports, is the **31st October 2005**. If you have any ideas NOW, please let us have them as soon as inspiration strikes. If you see or find anything unusual, please let us know right away, for next year's Observations.

If you wish you can e-mail your contribution to **journal@edinburghnaturalhistorysociety.org.uk** If you do not have e-mail, you can send e-mails from any Library, and there is usually a Librarian on hand to help you.

Otherwise, give your contribution to Andrew Gilchrist, Lyn Blades or Sandra Stewart.

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